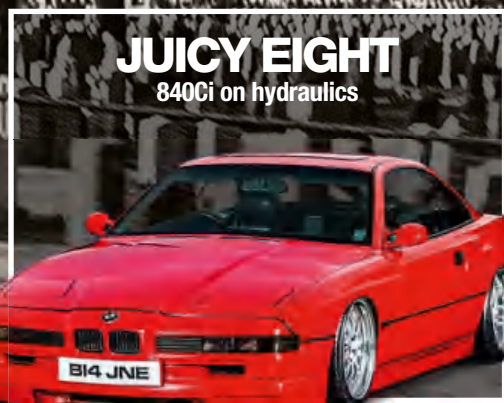




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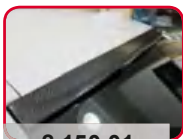
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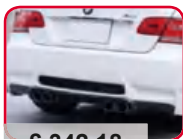
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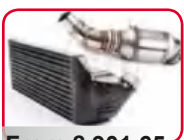
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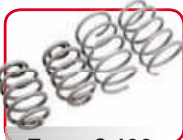
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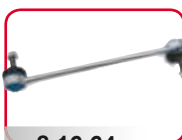
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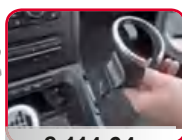
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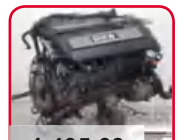
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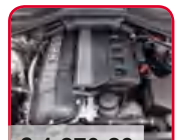
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E39 E60 Engine 520i M54 Km 164.000 #C17274



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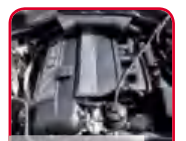
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BMW E36 M3 cabriolet 1996
Car no.: 1768



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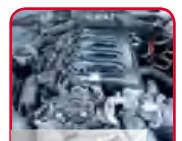
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E60 E61 Engine 535D Km. 153.000. #C13609



£ 2,308.33

E60 E61 E63 E64 Engine 535D Km. 242.000 #C18804



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Car no.: 1754



BMW X5 (E53) SAV 3.0D 2004
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FIRST WORDS

You know what's weird about the end of show season? Not washing my car every single weekend. Obviously I'll still be keeping it clean but it's not going to be such a religious exercise as it doesn't get driven much over the winter and so won't have much chance to get dirty. Maybe I'll wash and detail the dishes instead. Maybe...

I was also thinking about the fact that quite a few feature cars recently seem to have involved stories of overcoming motoring adversity, transforming a car from a near shell or an unloved car in a poor state (I can definitely relate to that) and making it something incredibly special. Of course, the modifying journey never does run as smoothly as we'd like and many of you will have hit that low when nothing is coming together and you feel like giving up. Well don't. Never admit defeat. If you keep pushing, dreaming and building you will overcome those problems and emerge with an amazing and beautiful car that you can be truly proud of. With the cold weather descending and the long nights drawing in you are no doubt pondering your plans for next year. Now whatever they are, extreme or minor, stay true to your vision and don't let anyone or anything hold you back. You know it'll be worth it in the end.

Motivational speeches aside, let's take a gander at what we've stuffed into this month's edition. Our cover car is an E46 M3 of epic proportions, not just because of its custom wide-body kit but because it's just such an incredible car from top to bottom and while it's not going to appeal to everyone, it's such a bold build with such incredible attention to detail and vision behind it, we defy you not to be impressed. Variety is the spice of life and if

you're bored of bags we've got an 840Ci on hydraulics for your reading pleasure plus a super-clean static E28 with an M54B30 swap and a DTM-inspired E92 M3. We've also got an absolutely epic LS1 V8-powered E30, a supercharged E46 M3 and much, much more. So, turn up the heating, cosy up on the sofa and get stuck in.

Elizabeth de Latour, Editor



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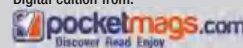
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The E85 Z4 doesn't get a whole lot of love but, when done correctly, it can look absolutely killer, as this bagged Brit build proves.

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Bored of bags? Stick this 840 on hydraulics in your pipe and smoke it...

Words: Elizabeth de Latour Photos: Steve McCann









The 8 Series is a bit of a weird one. It appeared, seemingly out of nowhere, back in 1989, and stayed in production for ten years with no styling alterations inside or out (bar steering wheels and the sport kit). Some 30,621 were sold worldwide and then it disappeared and was never heard of

again. It's almost like an anomaly or some kind of freak natural event, and it's not exactly a car that has ignited the modified BMW scene either. There have been a couple of mildly tweaked examples here and there over the years but nothing to really make you sit up and think 'wow'. But the times, they are a changin' and the modified

crowd is catching onto the under-appreciated and rather magnificent 8 Series. You will recall that, earlier this year, Matt Clifford's lush Velvet blue 840Ci graced our pages but there is another equally gorgeous 840 that perhaps you might not be so aware of, a car that you're not going to see galavanting around British shows because this particular 840 is located a little further afield over in Northern Ireland.

Its custodian is Blaine Leathem, a man who is one letter away from being a Batman villain but who is actually in mushroom marketing and procurement. Well mushrooms don't just magically appear in your supermarket, now do they? (*The urge to insert a mushroom pun here is almost unbearable* ~ Ed). What's more interesting than his fungus shenanigans, however, is his choice of car and growing up surrounded by BMWs set Blaine on the path that inevitably led to BMW ownership. "I have always had a liking for BMWs due to their styling, handling abilities and performance," Blaine tells us, "and my family have always had an array of BMWs over the years. At one point we had an M3, 5, 6, 7 and 8 Series at the same time. The 840Ci was actually my first BMW (*snap!* ~ Ed). I bought it as I always revered the styling as completely unique and timeless. I believe there is nothing that comes close to the E31 in terms of styling, handling and performance but also in complete luxury. I remember the first time I



“Styling-wise I didn’t have to do much mainly as the M Tech kit is almost perfect in every way for the car”



saw an 8 Series as a kid and instantly fell in love with them. I knew I had to have one at some point. When I finally decided to buy one it was because I wanted something completely different from modern cars on sale at the time as they didn’t interest me and I wanted to be different.”

Blaine found what would become his 840 being sold by a fellow enthusiast who actually had two and needed to let one go, so he snapped it up. With a history of modifying his cars it’s no surprise that the 840 didn’t stay stock but there were no plans to take things this far, at least to start with. “My plans for the car were quite low key,” he tells us. “I just wanted a nice set of upgraded wheels, lowered suspension (which turned out to be an issue due to lack of off-the-shelf aftermarket parts), and an exhaust to hear that gorgeous burble.” The car has been through a few changes over the years, including being wrapped Midnight purple following competing in the Modball Rally where the paint took a battering from stones and stickers. The car sat in storage for a bit while Blaine busied himself with his M3 but when that sold he decided to pull the 8 Series out and give it a revamp, which resulted in the car you see here.

“My first port of call was to speak to the

style/modifying guru and one of my closest mates John Peden, of Peden Conceptz,” says Blaine. “First job was to address the stance. We decided hydraulics was the only option due to the severe lack of aftermarket parts available and the fact that it could cope with the sheer weight of the car and still retain handling and driving performance. We thought air might compromise the ride of the car and leave it a little soft.” Considering that everyone seems to opt for air, it’s nice to see someone doing something a little different and going down the juice route. Blaine seems very pleased with the end result and, as it offers the same adjustability as air, it lets him dump the car to spectacular effect.

Having sorted his suspension he turned his attention to the wheels. The 8 Series looks best on deep-dish wheels, as demonstrated by the Style 5s that could be had with it when the car was new. The three-piece stepped-lip Eta Beta Krone 18s that Blaine was gently steered towards by Dave at German Rims looks absolutely awesome in situ. The mesh design is the perfect choice and the polished lips and deliciously deep dishes are the icing on the cake with the massive arches on the E31 meaning it can comfortably tuck 11.5s at the back.

Fitting the Krones, however, presented Blaine with a new problem. “It left us with no option but to revise the colour scheme which, again with some subtle direction from John, meant we ended up going for period-correct Ferrari Rosso Corsa red. I decided that since John was doing all the ‘easy’ work the least I could do was to strip and prep the car for him. This was the first time I ever took a car apart to this extent and it led to many late nights locked away in the garage with my old vinyl records playing and a glass or two of whiskey in hand as I worked.” The Ferrari red is a striking colour and works really well on the 8 Series, especially with the subtle exterior modifications that Blaine has carried out, such as the tinted front lights, the de-chromed front grille and monochrome badges. “Styling-wise I didn’t have to do much mainly as the M Tech kit is almost perfect in every way for the car,” he says. And he’s not wrong.

When the car had been stripped prior to painting Blaine decided that it was a good idea to go to town on the interior, too. “I went ahead and took the whole interior apart to create a more unique look to complement the exterior. I sourced a full black interior from Will at Will’s Wheels; I



then changed the full dash and doorcards from grey to black and the seats and door inserts were a combination of my old seats and the new black seats to form what you see now." The two-tone interior looks great and is a fantastic choice to go with the red paint, while the lighter sections break up the black perfectly.

Blaine also fitted a brand-new E36 M3 steering wheel with M stitching and perforated leather and upgraded all of the dash lighting as the old optic tubes had left a lot of the gauges dull and unevenly lit. This required the installation of LEDs and he also coloured his dial needles in red like you'd find on the period M models. He's also added a fancy flip-out screen head unit while the dash panel beneath the steering wheel has the two switches for the hydraulic suspension, neatly and discreetly mounted and within easy reach at the same time.

While having a clean engine bay is enough for most of us, Blaine has gone the extra mile here as well. The rocker covers and engine cover have been colour-coded to match the exterior, which makes the engine bay look pretty fantastic. Blaine has also fitted a K&N air filter for improved breathing and an LPG kit, which makes the V8 running costs a little more bearable, although he

admits he doesn't use the kit all that often. A glance at the back reveals the seriously beefy quad exhaust tips of the full custom stainless steel exhaust and what you can't see is the shorter final drive that he's fitted from an E38 750i to improve acceleration and make the car feel that bit sportier.

In the space of eight months Blaine has built himself an absolutely spectacular car and judging by the reaction he's had at shows and online, it's a bit of a head-turner and a crowd-pleaser. "My favourite mod has to be the flawless paintwork by John. The colour just grabs your attention and coupled with the deep burble from the exhaust means you always receive attention no matter where you go," he grins. "The first show I took the car to was Level Up. I was invited along by the guys at I Love Bass and every time I looked there was a crowd of people surrounding the car and photographers trying to get it from every angle!"

This 840 is so bright, so clean, so awesome that you can't help but stop and stare and maybe rub yourself all over it. Maybe. Is the 8 Series suddenly going to become the darling of the modified scene? Well, if you're tempted and you're looking for inspiration, look no further ●

E31 840Ci on hydraulics

ENGINE & TRANSMISSION

4.4-litre V8 M62B44, K&N air filter, custom stainless steel exhaust, colour-coded rocker and engine covers, LPG kit, standard five-speed Steptronic gearbox, shorter E38 750i final drive

CHASSIS

9.5x18" (front) and 11.5x18" (rear) Eta Beta Krone three-piece wheels with 235/40 (front) and 265/35 (rear) Hankook K120 tyres, custom hydraulic suspension setup, Brembo callipers, discs and pads with stainless hoses (front and rear)

EXTERIOR

Full respray in Ferrari Rosso Corsa red, tinted front lights, additional lights in the FTP units, dechromed front grilles, colour-coded badges

INTERIOR

New M Tech steering wheel with M stitching, custom grey/black leather seats, new black dash and doorcards, upgraded led interior and gauge lighting

THANKS

Special thanks goes to John Peden at Peden Conceptz, without his wisdom and guidance none of this would have been possible, Will's Wheels, Canavan's Auto Centre, Allister at AGS Gas, Dave at German Rims, the guys at Autocare Lurgan for keeping it in perfect condition for me



AMD 4 SERIES TUNING PACKAGE

Owners of 420d and 435i models looking for a bit more power should take a look at this new tuning package from performance pro, AmD. It combines an AmD remap with a Cobra Sport exhaust, delivering a double hit of performance goodness. The new software will give your 420d or 435i a serious boost in power and torque while the free-flowing stainless steel exhaust will result in greater gains than the remap alone could produce. AmD will fit your Cobra Sport exhaust for free or give you 10% off and free delivery if you'd rather buy it mail order, and will give you the remap for half price if you buy it at the same time as the exhaust.

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F8X M3 AND M4 CARBON SIDE VENT COVERS

If you're lucky enough to have got your hands on a brand-new M3 or M4 then MStyle's latest carbon offering will be of interest. The Romford-based styling and tuning expert has just released these genuine carbon fibre side vent covers which look smart, are inexpensive and simply fit over the existing trims, which means adding that subtle carbon flash takes mere moments.

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Web: www.mstyle.co.uk

Tel: 020 8598 9115

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Good as the twin-turbo N54 engine is, it's not perfect and one of the most common problems with it are rattling wastegates. However, if your N54 suffers from this don't worry as UK-based turbo expert, Turbo Dynamics, has developed a solution: a bespoke hardened sleeve for the wastegate arm and a new hardened wastegate bush. The addition of the hardened material prevents premature wear whilst the increase to the surface area allows for a more 'snug' fix, stopping the wastegate from rattling about, eliminating the 'chatter' noise. The company tells us it also returns the turbo to its OE tolerances and also protects the lifespan of the turbo. Turbo Dynamics offers this repair as part of its Turbo Overhaul service, which comes with a complimentary 12-month warranty.

From £295 plus VAT per turbo

Web: www.turbodynamics.co.uk

Tel: 01202 487497



F2X 1 SERIES CARBON SPLITTER

MStyle has addressed the lack of styling options for the second generation 1 Series by bringing out this new three-piece carbon front splitter, available for all M Sport models. It gives the front-end a more distinctive look without being OTT and fitting is available at MStyle's Romford HQ.

Price: £385

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Tel: 020 8598 9115



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The Theory of *Everything*



Exploding onto the scene and tearing through it with the ferocity of a supercharged tornado, this E46 M3 is a devastating lesson in the theory that more can most definitely be more.

Words: Elizabeth de Latour

Photos: Tony Lopez





When building a project car there are numerous approaches and end goals you can look to achieve: some people build out-and-out show cars; some people build ferocious fast road cars; some people go for an all-out audio build; and some go to town on styling. When Rick Fontan got to work on his E46 M3 he decided to do, well, everything. We feature a lot of amazing cars in *PBMW* but it's not that often that we come across a car that has been modified as absolutely as this, on every level, and this is one of those cars that, when we first saw it, genuinely took our breath away.

Of course, we're sure that Rick will be the first person to admit that his car isn't going to be met with universal appeal – it has been blowing minds like a brain bomb and collecting awards like some kind of giant award-collecting magnet since he rolled it out earlier in the year for the first time but there's plenty here that will raise many an eyebrow. Those chopped front arches, for example, the highly unconventional bonnet setup, the fact that he's blended so many different elements that in many ways conflict with each other and brought them together in one project. It's definitely not a conventional build and by that very virtue he's created something incredibly noticeable. Sometimes, when you come across a build that incorporates so many different elements, the end result can be a little jarring, with components that really don't look like they belong together and it can be a little unpalatable – it's the meat trifle from *Friends*, a lot of potentially delicious ingredients coming together to make something that's hard to stomach but somehow Rick has made his vision work. He's plucked that vision from his brain and translated it into a tangible object that is coherent and, more than that, genuinely good. For all its wideness, angularity and sheer eyeball-punching impact, there is an inherent smoothness and oneness to this E46 M3. Everything flows together: the bodywork is wild but the Lamborghini Grigio silver paint is quite subtle; the wheels are large and multi-piece, yes, but sport a

simple design; the purple highlights that appear throughout are just right in terms of colour and number to tie numerous elements together without overwhelming the car's overall aesthetic and while the components might be unlikely bedfellows somehow everything just feels right together. A lot of thought and work has gone into this build and it shows.

So, just what kind of man builds this sort of car and why? "I have been into BMWs since I was about 19 years old. That's when I first started getting into cars in general," muses the now 33-year-old Rick. "BMW has always been respected in the show scene, on the street, and on the track. I think that's what makes it so special. It covers all aspects of what a car should be and how it should be built. I had a Mitsubishi Eclipse for about four years before selling it to buy the M3. It was fully built by the time I sold it and I had won multiple awards with that build and even landed a magazine feature. I bought the M3 in 2006 from a dealership in Queens. It was a little beat up and had about 50,000 miles on it but that didn't bother me at all because I already knew it was only a matter of time before I would start modifying it anyway. This was my dream car and as soon as I saw the opportunity to get one, I jumped on it. My inspiration came from Craig Liberman and his 'uber' M3; I was obsessed with that car and just knew I had to build one of my own and I had it all mapped out. I knew exactly what I wanted to do to it before I even knew purchasing one was an actual possibility.

"Going in I knew I wanted to build a show car. I had to make sure all areas of the car were addressed, especially the motor as it is the one area that everyone asks to see. I couldn't have a built car without any engine modifications, that's a no-go!

"My car had to be equally balanced. I made sure to modify the engine enough to be able to put it on a track as well as look amazing just sitting there on a showroom floor."

He's certainly delivered on that front. The engine work isn't insane but it's nice to see a car built on this scale running something attainable under the engine bay – although that's not to say this isn't a seriously



"The interior needed to look as clean as the rest of the car and to continue the exterior theme as well"

powerful and subsequently fast E46 M3. There's no missing that Vortech supercharger, painted in Candy purple, with a TurboSmart blow-off valve but you won't be able to spot the uprated pulley and belt that help up the boost. There's a Vibrant front mount intercooler with custom piping, Driven Innovations intake manifold and Agency Power stainless steel exhaust manifolds which lead to custom GTR-style side exit exhausts. Rick has paid a lot of attention to the fuelling, with Injector



“I made sure to modify the engine enough to be able to put it on a track as well as look amazing just sitting there on a showroom floor”

Supercharged E46 M3

ENGINE

3.2-litre straight-six S54B32, Vortech supercharger, upgraded belt and pulley, oil cooler, Vibrant front mount intercooler with custom piping, Vibrant hoses, Agency Power stainless steel exhaust manifolds, Injector dynamics ID725 fuel injectors, upgraded fuel rail, Driven Innovations intake manifold, TurboSmart blow-off valve, Custom GTR-style side mounted exhausts, ATL fuel cell, ATL dual dry break filler, Bosch 044 fuel pump, Aeromotive fuel regulator, reinforced sheet metal trunk, all braided stainless steel lines, Candy purple painted accents, shaved engine bay, full wire tuck. Est. 450whp

TRANSMISSION

Six-speed manual transmission swap, upgraded clutch, short-shift, UUC Stage 2 clutch, UUC flywheel, Chase Bays brake booster eliminator

CHASSIS

10x20" (front) and 12x20" (rear) SSR Professor SP1 three-piece wheels with 255/30 (front) and 305/25 (rear)

Toyo Proxes T1-R tyres, Air Lift Performance air suspension, uprated anti-roll bars (front and rear), carbon fibre lower control arms, rear camber kit, Stoneguard powdercoated entire undercarriage, StopTech ST-60 BBK with slotted discs (front) and ST-40 BBK with slotted discs (rear) with purple callipers (front and rear), braided stainless steel brake lines, brake line tuck

EXTERIOR

Custom-built wide-body kit, custom 1/3 mini bonnet, Vorsteiner carbon fibre boot, carbon fibre front lip, custom splitter, Vorsteiner carbon fibre roof, carbon fibre headlight overlays, carbon fibre M front and side grilles, carbon fibre emblems, custom heat shield for exhaust, Lamborghini Grigio silver paint

INTERIOR

Recaro Profi XL bucket seats, Schroth Profi 5 harnesses, custom roll-cage in Candy purple, full suede interior with purple stitching, Vertex steering wheel, Momo hub, M Tech pedals, carbon fibre gear knob, custom dashboard, AIM stack cluster, boost gauge, ATL fuel gauge, custom-

mounted V2 controller, custom carbon fibre bezel, interior LED lighting, rear seat delete

AUDIO

Alpine LCD touchscreen head unit, Focal K2 Power three-way speakers, Focal FPS3000 mono amplifier, Focal FPS4160 four-channel amplifier, Dynamat sound dampening, Focal crossovers, 2 Focal Utopia Be 10" subs

THANKS

I would like to give a special thanks to my parents because without them none of this would've been possible. Their continued support throughout the years is what allowed me to pursue this passion and push me to complete this build. I want to thank all my family and friends that helped me along the way. To my girl for all her patience and support and being part of this with me, AMS Autowerks in Linden, NJ, Audio Clinic in Belleville, NJ, Branch Brook Auto Top in Newark, NJ, and, of course, to *Performance BMW* magazine for allowing me to grace the cover of your magazine and show the car to the world





Dynamics ID725 fuel injectors and an upgraded fuel rail, while in the back you'll find an ATL fuel cell, an amazing ATL dual dry break filler, plus a Bosch 044 fuel pump and Aeromotive fuel regulator. What's most impressive, though, is not what's in the engine bay but what isn't, as the bay's been shaved and a full wire tuck has been carried out. It looks spectacular for it; no wonder it's Rick's favourite mod on the entire car. "It takes the entire build of the car to the next level," he says. "Plus, it's very rare to see an M3 with this style of build and a shaved bay." He's not wrong. The super-clean bay draws your eye to engine and the 'charger and it makes the Candy purple highlights even more spectacular against the simple silver background.

With the Vortech blower and supporting mods, Rick's M3 is putting out an impressive 450whp and that means some equally impressive drivetrain and chassis mods are required in order to be able to put that to good use. Originally this was an SMG car but Rick has swapped in a manual gearbox mated to an uprated UUC Stage 2 clutch and UUC flywheel to deal with the serious boost in power while a short-shifter takes a bit of travel out of the M3's surprisingly long throw for quicker, sharper gear changes. For the brakes, Rick turned to StopTech, slapping on the company's seriously powerful six-pot front kit with two-piece slotted discs which is matched to an ever-so-slightly smaller four-pot setup at the rear, with tucked braided hoses all-round and purple calipers, naturally.

It won't have escaped your attention that this car is on air and Rick's reasoning is sound: "I went for this setup to have the best of both worlds. With suspension like this it allows me to drive the car daily, set the ride height lower if I were to track it, slam it down to the floor or even raise it high enough to drive onto a trailer." His kit of choice is Air Lift's excellent offering along with the equally excellent V2 controller. The

suspension mods haven't stopped there and this E46 M3 has also been treated to uprated front and rear anti-roll bars, carbon fibre lower control arms and a rear camber kit, plus the entire undercarriage has been Stoneguard powdercoated.

We mentioned the wheels earlier and that the simple design works really well against the riot of styling that's going on at the same time. "I've always liked the mesh type of wheels," says Rick, "but with this type of build I decided to go with five-spoke wheels. I feel it gives the car an aggressive look and displays my brake setup beautifully." We agree – the spoke spacing on the three-piece 20" SSR Professor SP1 wheels that he's opted for is massive, meaning everyone gets a great view of those huge brakes, and the 10" front and 12" rears mean serious dish.

As far as the exterior of this car is concerned, there's no two ways about it: it's utterly insane. It's not going to appeal to everyone but there's no denying how much work has gone into it and how spectacular the end result is. "The styling of this car has been through many different stages over the years," Rick tells us. "There were many problems and challenges along the way because of all the different shops it went to, but about three years ago my car finally landed at AMS Autowerks where the final transformation took place. Even that was a challenge in itself. Diogo Acevedo, the owner, had to rip the car apart and basically start from scratch."

A big job then, but that's kind of stating the obvious. So what exactly have we got here? Well, for starters, there's the custom wide-body kit with its extreme arches and those sections chopped from the rear of each one which really makes this car unique. Elsewhere there's carbon fibre – lots and lots of carbon fibre – with a custom carbon front lip, Vorsteiner carbon boot and roof, carbon headlight overlays, and M front, side grilles and emblems for good measure.





The fat exhausts poke out from the side skirts and have been fitted with custom heat shields to stop them from melting the kit and then there's the bonnet, or rather the lack of it. Now, at first glance you might think that Rick has popped his bonnet off for the photos, as you often see guys doing, but look a little closer and you realise that, no, what you're seeing is the bonnet in its entirety. Rick says it's a custom 1/3 bonnet and closer inspection reveals that basically the front 1/3 of the bonnet has been retained and mounted as it normally would be while the rest of it has essentially been chopped off and possibly discarded in a hedge somewhere. It's very different and pretty cool for its double-take factor.

Moving inside there's barely time to take a breather as the car continues to assault your senses. "The interior needed to look as clean as the rest of the car and to continue the exterior theme as well," says Rick. This meant stripping stuff out and painting a whole bunch of things Candy purple. The whole interior has been trimmed in suede with purple stitching and up front Rick has plumped for a pair of Recaro Profi XL seats along with Schroth Profi 5 harnesses and a Vertex steering wheel mounted on a Momo hub. There's carbon trim galore, along with a



Rear seats long-gone and in their place is a custom Candy purple roll-cage, air tank and two amps

carbon gear knob and a custom dash housing an AIM stack cluster, boost gauge and ATL fuel gauge, plus a custom carbon bezel for the Alpine touchscreen head unit. The digital controller for the air suspension has been mounted in the driver's air vent – a neat touch. The rear seats are gone and in their place sits a custom roll-cage, finished in Candy purple, a purple air tank and the Focal four-channel and mono amps for the seriously impressive audio setup. The front doors house the Focal K2 Power three-way speakers while the boot area is home to a pair of custom-mounted 10" Focal Utopia Be subs, which share the space with that incredible fuel setup.

So, there we have it. If you've ever wondered what you could achieve with your car given nine years and a truck-load of cash, hard work and determination, wonder no more because you're looking at it. It's not just the overall end result that's mind-blowing, because it is, but it's the attention to detail that's gone into it, the thought, the creativity. Every aspect of the

car makes you stop, look, look again and marvel. Do you love it? Do you love all of it? Maybe, maybe not, but we can guarantee it's getting a reaction from you. And that's what this car does best: get people's attention. "After three years of completely rebuilding the car it was debuted in August of 2015 at the Tuner Evolution car show in Philadelphia, Pennsylvania. The crowd's reaction was priceless as show-goers looked at it in amazement. The judges felt the same way as it was awarded 'Best of Show'. Later that month I showed it at Wekfest East in Edison, New Jersey and also took 'Best of Show'," Rick says beaming like a proud father seeing his child winning a trophy at sports day. This isn't just a car, it's an extension of Rick, the physical manifestation of his vision and it's the kind of car, the kind of complete car that you know was not a casual build. If you haven't guessed, we kind of love it, it's an absolutely awesome car on every level and proves that more is most definitely more ●



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AMERICAN HUSTLE

This E30 may be low and exceedingly sexy,
but it's what's lurking under the bonnet
that will blow your socks off...

Words: Elizabeth de Latour
Photos: Patrick Lauder



You're probably looking at this E30 and thinking that it looks good because, let's be honest, it does. The colour is nice, it suits the E30 shape and, yes, it's on air, but what isn't these days right? Air is cool, you might be thinking, and it's clean and subtly done – just a really nicely modded E30 that anyone would be happy to own. And then you spot that bonnet-up engine shot: 'Cor... Corvette? Whaa...?'

Now maybe you're confused and have a disapproving look on your face. Suddenly you're probably feeling some conflicting emotions because maybe you're just not down with Yank motors in German cars. We can understand that – engine swaps are cool, everyone loves an engine swap when it comes from within the BMW family, but venture outside that circle of safety and, well, things get a bit fuzzy around the edges.

But here at *PBMW* we're definitely down with this sort of engine swappery. Owner Rich Hardesty-DeMenge is a brave man for stuffing that vast 'Vette V8 into his E30 (affectionately called Evette) not only because it's a massive undertaking both in terms of sheer effort and finances, but also because brave is the man who sullies the classic purity of the E30. We admire his commitment to worshipping at the V8 altar.

Usefully, the 26 year-old is in "the engineering field", so he's a bit handy with his hands, and that means he was well-suited to tackling this crazy swap with a little help from his brother, Brendon. But we're getting ahead of ourselves here, because when a man decides he wants to put an American V8 in his E30, you want to get to know that man a bit better...

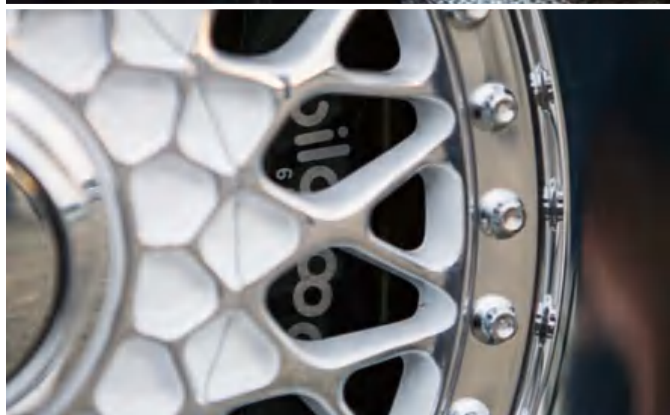
"I've liked BMWs since I was a child playing with model cars, before I was even dreaming of what kind of car I would eventually drive," says Rich. "I have always found BMWs to be one of the best looking cars on the road, and I really enjoy the feeling I get when driving mine. When I was 19 I wanted a BMW and ended up buying a 2005 325i, though I figured out later I should have done more research into exactly what kind of BMW I wanted as it turned out to be a SULEV (Super Ultra Low Emissions

Vehicle) model so I was stuck doing only suspension and visual modifications."

He did attempt to get more power out of it, but it didn't exactly go to plan: "I got screwed out of a \$7000 deal on a supercharger kit that a company sold me, guaranteeing it could tune the M56 SULEV to run the kit. Of course when all was said and paid for I installed the kit, but the company couldn't tune the computer after all, at least not without having the car. As I was in California and the company was in Florida, I took the kit off, tried to return it. It wouldn't accept it, so I ended up selling the kit for around a \$3000 loss and started hunting for an E30 instead.

"My plan was to build a turbo M20 from the start. Power was all I cared about at the time. I actually bought a spare M20 and started building it before I had even found the car," and seeing as Rich had modified every car he'd previously owned, that doesn't come as much of a surprise. "I bought the E30 in Milpitas, CA, maybe 20 minutes away from the dealership that originally sold it. It had a cracked head, the brakes were shot, it was an automatic, had no interior, and the person I bought it from had begun parting it out. It was in pretty sad shape, but the body was rust-free and straight, and that was all I cared about. It

"I've always found BMWs to be one of the best looking cars on the road, and I enjoy the feeling I get when driving mine"



ended up with a built M20 stroker with a Holset HX35 turbo running 18psi that I put together myself before deciding on the engine swap..."

As a side note, while it may say Corvette on the rocker covers, the 5.7-litre (5665cc and about 346Ci if you want to keep things American) all-alloy LS1 V8 that fills the E30's engine bay to brimming point was actually extracted from a 2002 Camaro Z28. This engine was used in the C5 Corvette, albeit in a slightly higher state of tune (350hp plays 305-325 depending on flavour of Camaro), though according to everyone and their Chevy-driving dog those figures are conservative to protect the Corvette's status and in actual fact all the engines made about

the same power at around the 350hp mark.

Considering most people carrying out V8 swaps on E30s opt for the 4.0-litre M60, with its 286hp and 295lb ft of torque and find that more than enough thank you very much, an additional 40hp on paper and 50lb ft make for a silly fast car that gets to enjoy the massive spread of torque that comes with a huge capacity engine. Naturally, that wasn't enough for Rich, so he added a few go-faster bits under the bonnet including a Texas Speed 228r cam, LS6 intake, having the head ported and polished and upgrading the valvetrain. These engines respond well to bolt-ons so we'd be guessing it's got to be knocking on the door of 400hp now, which is just a bit silly really.

"The biggest issues my brother and I ran into was fabrication," explains Rich. "as we did the entire swap on a set of jack stands over three years ago. There were no 'swap kits' available back then that allow you to simply drop the drivetrain in like there are today. We had to make our own motor, trans, hydroboost and second differential mount, along with fabricating the entire exhaust by hand, which is a dual 2.5" system that goes into a single 4" oval exhaust that runs back to a Magnaflow muffler."

Considering that an LS-swap is still not exactly easy now, the fact that Rich and his brother did all this by themselves when things were even harder is very impressive.

Of course all that go would be no good if

Rich's E30 couldn't put it down effectively so the chassis has been thoroughly overhauled. Purists among you may question why he opted for air-ride over coilovers with such a serious engine lurking under the bonnet because, you know, bags don't handle (#sarcasm). "I ran Ground Control coilovers for a while," he says "but I knew I eventually wanted to put air-ride on the car. Having a bagged ride had been a dream since elementary school, and the days of reading *Mini Truckin'* and *Truckin'* magazine. So I did just that, I bought a DIY kit that required a fair bit of customisation, and my brother helped me fabricate everything. Overall, I have to say I really like the way it handles and rides with bags, even over coilovers,"

so deal with that, bag haters.

Beyond that there's the practicality that comes part and parcel of an air-ride setup plus the fact that, aired out with BBS RSs tucked up inside its arches, this E30 looks just plain badass.

"Wheels were a really tough choice," muses Rich, "but I have always liked the mesh style with a polished lip, and the BBS RSs fit the bill quite nicely, I originally had a 16" set on Evette, which were stolen, so I ordered the current set that you see on the car and, as luck would have it, I found and managed to get back the stolen set of 16s within a couple days of receiving the new 17" set, leaving me with an extra set of RSs for my other E30."

LS1 E30

ENGINE & TRANSMISSION

2002 5.7-litre LS1 V8, TSP 228r cam, ported and polished heads, LS6 intake, Tremec T56 six-speed manual gearbox

CHASSIS

9x17" (front) and 10x17" (rear) BBS RS wheels with 205/35 (front) and 215/35 (rear) tyres, custom DIY Air Lift Performance air suspension, Wilwood BBK with 310mm discs (front and rear) and six-pot calipers (front) and four-pot calipers (rear)

EXTERIOR

Late model rear valence welded on, iS side skirts

INTERIOR

Black leather Sport seats, M Tech I steering wheel



The final touch is a set of uprated brakes, because you can't be driving around in an E30 with almost 400hp on the standard setup. Tucked away behind those BBSs you'll find a set of Wilwoods front and back running 310mm discs all-round with six-pot front calipers and four-pots at the rear, delivering just as much stop as the engine does go.

Styling-wise things have been left pretty much standard and in our opinion this was most definitely the right thing to do because the E30 is such a perfect piece of design it would seem wrong to mess with it. "I find E30s to be a genuinely good looking car from factory minus a good drop and nice set of wheels, so I decided to keep it stock,

although I did install a rear valence from a late model to help balance the car out," Rich tells us.

The interior, too, has been left untouched, but why start messing around in there when you've got Sport seats and an M Tech I wheel? "I ended up finding a well-used but good condition full black interior after I bought the car," he says, "which I cleaned up and installed. I do have a full red interior I would like to install, but it needs to be reupholstered first." The only item that is alien is that baseball-sized gear knob attached to the six-speed Tremec T56 gearbox beneath.

While Evette might look finished to you and I, Rich has more plans in the pipeline,

and they're not just a new bumper or set of wheels... "I'm going to end up throwing a large single turbo on the passenger side of the engine bay at around 8psi," he says casually and nonchalantly, like a man describing what he plans to order for lunch. "Plus the new interior eventually and another paint job – this car will never really be done," which is of course how pretty much most of us feel about our project cars.

For now, though, Rich and his brother have built something a little bit special, a seriously good-looking E30 with the sort of intoxicating power and thunderous soundtrack that will make you want to put a V8 in everything, and we certainly wouldn't blame you for that... ●

"Overall, I have to say I like the way it handles and rides with bags, even over coilovers"



RACING BULL

Bryan McGhee has taken inspiration from the world of DTM to create a unique and imposing E92 M3. And it's very far from an off-the-shelf build...

Words: Daniel Bevis
Photos: André Neudert





Engine bay might look stock but a BPM Sport performance tune delivers an impressive 475hp



Red Bull is one of those brands whose name implies impeccable quality when it's plastered along the side of a race car. Your brain happily suspends the knowledge that the product in question is a cloyingly saccharine fizzy drink, as there are so many other high-octane associations that are pushed to front-of-mind when you see that iconic dark blue canvas, liberally sprinkled with yellow suns and, er, red bulls. The livery has slipped seamlessly into the pantheon of all-time classics – not quite up there with Gulf, Martini or JPS, but on the way. Think about it: countless F1 championship wins, NASCAR, Dakar, that astounding Peugeot 207 that decimated the Pikes Peak record – Red Bull and fast cars go hand-in-hand.

An appropriate stylistic choice for an E92 M3 then, no? Even in stock form, we know that this V8-powered looper is a formidable beast, with its vast reserves of horsepower and general disregard for the commonly accepted laws of physics. Of course, we also know that applying race car livery to a standard car, no matter how pacey it may be, is a questionable thing to do. Look how many ST205 Celicas there are out there covered in Castrol rally stickers, and Volvo 850 estates with BTCC colours. You've got to actually do something to the car first or you might look like a wally. Thankfully Bryan McGhee, owner of this M3 has nailed that element head-on; rather than relying on off-the-shelf parts, his E92 offers an intriguing platter of bespoke and custom touches. And as an ex-military man, you can be sure that it's been finished with militaristic precision...

"Every car I've owned has been modified," he explains. "This comes from my

upbringing in South Central Los Angeles, and the influence of my family members who were into motorsports." Bryan's first car was a 1964 Chevrolet Impala, which is a pretty gangsta way to get your training wheels off, and he's since enjoyed three Mustangs, a '76 BMW 2002, and a mighty V10-engined Dodge Ram SRT-10 (which he sold to buy this 2010 E92). "I've always respected the BMW brand," he says, "ever since I bought my 2002 back in the mid-Eighties, when I was stationed in Hawaii with the US Army. I'd say that owning a BMW is more than just owning a car –

you're buying into a piece of auto engineering history. And now that I own an M3, there's a piece of that history that I can share with my son, who's a motorhead just like his pop!"

Now based in Germany, the retired sergeant major is closer to his favourite automotive brand's spiritual home than he was in Hawaii or LA, the winding lanes of Vorbach nestled cosily in the north-eastern corner of Bavaria. Of course, there's nothing cosy about the race-inspired intent of his E92, that's an altogether angrier proposition, counterpointing the tranquillity of the



“I’d say that owning a BMW is more than just owning a car – you’re buying into a piece of auto engineering history”

car to-do list. The first thing to tackle – as with around 90% of the cars we feature, in fact – was the suspension; Bryan had an eye on stance, naturally, but was primarily looking for something that would be fit for purpose on those country lanes, something to complement and enhance an already impeccable chassis.

H&R Clubsport coilovers were the order of the day; famously tested extensively at the Nürburgring, they offer totally flat cornering and supreme directional control, so are much in-keeping with the aspirations of the build. This box-ticking was quickly followed by an upgrade to the exhaust system, a Flowmaster cat-back affair helping the brawny V8 to breathe a little more freely. A BPM Performance Tune brought peak power up to a heady 475hp, which is close enough to the power output of a bona fide DTM racer to keep things entertaining.

“At this point, I started to think about wheels,” Bryan recalls. “It had to be something that was light and strong, but also had an appropriate motorsport look.” In the end, after much deliberation, it was 360 Forged who got the call, with a set of wide rims in a 20” diameter being powdercoated in red and black to infuse a sense of malice. And just think for a moment about how much rubber you need to encase a wheel that’s 20 inches across and a foot wide – those Dunlop Sport Maxx tyres certainly provide a clear statement of intent.

It’s at this point in the build that things start to get really interesting. Bryan wanted the car’s exterior to be unique – at once recognisable and clearly removed from the mainstream. This had to be a build that offered something different, that could hold its head up high among its peers. While the

countryside with aggressive barks and motorsport tinnitus-inducement. “I’ve always been a fan of the DTM and GT2 race series, and I wanted to build a car to replicate that spirit – a real racing car for the street,” says Bryan. “So I bought this car from Bavarian Motor Cars in Grafenwöhr, totally stock, and set about planning the transformation. Naturally the first thing I did, was give it a good wash. I’m fastidious about cleanliness, and it was raining that day...”

Pretty much as soon as he could see his face grinning back from the gleaming paintwork, Bryan set about fulfilling his race





aesthetics began with a smattering of readily available parts – a Driftworks carbon fibre spoiler imported from the UK, and a carbon fibre bonnet, front bumper and bootlid from Arkym in California – it was the work he commissioned VB Customz in Grafenwöhr to carry out that really made the difference. We're talking about a complete redesign of that aftermarket bumper, a unique wide-body kit to rein in those vast wheels, and all manner of custom, hand-fabricated parts from spoiler supports and splitters to canards and a rear diffuser. The genius of the design is that none of it looks outlandish or out of place; aggressive – sure, unusual – certainly, but not at all jarring.

"While all this was going on, I'd turned my attention to the interior," Bryan recalls. "VB Customz had deleted the rear seats and trimmed everything to have more of a motorsport vibe, and there's now an aluminium cage in there from Wiechers, and a pair of FIA-approved GP Race seats from Barcelona, with Sparco harnesses to suit." The dedication to the race car ethos is strong in this one, and Bryan's obsessive about the details – there are no half-measures here, only considered decisions. "The seat coding was sorted out by BPM Sport to eliminate the airbag fault code," he says. See? Fastidious. Because this isn't a laser-focused, stripped-out racer, it's a road car that sees daily use. The fact that it has so much racer DNA is what gives it the edge.

"The Red Bull graphics are unique as they're all hand-made by me," he continues, with a touch of pride. "I'm an artist, so cutting the decals was more fun than it was tedious... All-in-all, the project's taken about

two years, although cars are never really finished, are they? There are always things to do – I'm thinking about a big brake kit next."

The unique look of this Red Bull road-racer does seem to be going down well so far. Bryan's first outing with the 'finished' product was to the Street Culture Treffen in Regensburg, and it's fair to say that the reaction was excitable, setting social media aflame with an influx of photos and videos of the brutal M3 in action, the crowd parting like the Red Sea as he rolled out.

"That was pretty humbling. The autobahn experience is always entertaining too, and dropping my 12-year-old off at school is priceless," Bryan laughs. In fact it sounds like the lad's got designs on the car for himself: "He thinks he's going to get it when he turns 16," says Bryan, "but mom says no!"

Well, you can't blame the lad for trying – particularly when pop talks about augmenting that mooted big brake kit with a supercharger. Now that would really be something to impress your classmates!

For now, however, Bryan still has the keys firmly in his hand, and he's enjoying the fact that his innovative build is deserving of those iconic colours. Much like a can of Red Bull, this E92 is light, robust, packed full of effervescent energy, and has the ability to shake up the schedule of your bowel movements if you're not careful. If ever there's an M3 that's guaranteed to ramp up your friskiness levels, this is it ●

DATA FILE

E92 M3 DTM

ENGINE AND TRANSMISSION

4.0-litre V8 S65B40, BPM performance tune (475hp), Flowmaster cat-back exhaust system, stock six-speed manual gearbox

CHASSIS

10.5x20" (front) and 12x20" (rear) 360 Forged Maverick 5 three-piece wheels with 255/30 (front) and 305/25 (rear) Dunlop Sport Maxx tyres, H&R Clubsport coilovers

EXTERIOR

Custom wide-body kit by VB Customz, Arkym carbon fibre bonnet, front bumper and bootlid, custom diffuser, front and side splitters, canards and DTM-style wing mounts, Driftworks carbon fibre spoiler, custom paint and handmade Red Bull graphics

INTERIOR

Wiechers four-point aluminium roll-cage, GP Race seats, Sparco five-point harnesses, rear seat delete, GoPro Hero3

THANKS

Thanks to my wife and son, Elisabeth and Jonah, for their input and support. Thanks to the Lord who makes everything possible. And thanks to André of Speedy Shots for taking an interest in my project





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Mark van den Burg gives the
Veedub boys a run for their
money with this gloriously
clean 230hp+ E28.

Words Louise Woodhams

Photos: Ronald Veth

Clean



How did you get into cars? Perhaps you have fond memories of spending weekends in the garage alongside your father tinkering with spanners and watching him bring classics back to life. Maybe your father had his own workshop and you worked with him after graduating from college to follow in his footsteps? It could be as simple as a matchbox car that you had as a small child that sparked your love for all things automotive.

Personally speaking, I've been obsessed with cars for as long as I can remember but

I never had a direct influence or occasion that sparked my interest. My father certainly had an appreciation of nice, fast cars but, being a policeman, safety always came first so I grew up on a Swedish diet of Volvo. Not the most inspiring of car brands.

Fortunately, as soon as I got my driving licence I chose to venture south of the Pearl of the Baltic, and after buying my first BMW I never looked back.

The pivotal moment for the owner of this lovely E28, Mark van den Burg, was whilst working in a garage washing cars aged 18: "Funnily enough my grandfather was a car

fanatic but I never really knew him as he died when I was so young. But genetics are strong and I think I inherited the bug from him – including the way I sit behind the wheel, according to what my mum tells me." From washing cars he started to do repairs, which led him to his first foray into car customisation and he's been unable to rid himself of the oil in his blood ever since. As such, most of his cars have been modified. One, a VW Mk1 Caddy, was even featured in our sister title *Performance VW*. It ticked all of the boxes with air-ride, 14" PLS Vitesse wheels, fully polished 2.0-litre

Power



GTI engine and a full leather interior – including the dash.

A number of VWs followed, before he was finally able to indulge in a car he really admired just over four years ago now. “I’ve always had an interest in BMWs, especially the older Threes and Fives; they’re great cars and so technically advanced,” explains Mark. “I needed a new daily and decided on an E28 as they drive like a modern car. Also, in the Netherlands you don’t have to pay road tax on a car that is older than 25 years old.”

After just a few months it went from a commuter car to a full-blown project car,

but that’s when it became clear that it was not as solid as it first seemed. “It needed a lot of TLC, welding and mechanical repairs,” recalls Mark. Having owned quite a few Mk1 and Mk2 VWs he has become quite the expert in restoration, so he was able to carry out all of the body repairs himself. With the shell almost as good as new, he could turn his attention to the next phase of the build: styling.

Like all of Mark’s previous projects, this E28 is as immaculate as they come with nuances of shaving and detail work; from the deleted antenna hole in the rear quarter

panel and side repeaters to the M5 front spoiler and US rear lights. The Alpine white 1985 525e sits atop two-piece 18” BBS RC wheels with polished lips and gloss black centres; spaced out 10mm all-round and shod in the 215/35 Nankang tyres they fill the arches perfectly.

Playing a key part in helping to achieve this, of course, and hunkering the car down over the wheels are the fully adjustable Gaz Gold coilovers. To provide extra clearance during hard cornering, Mark custom-made the camber plates which also drop the ride a further 30mm up front, to match the extra



shortened springs out back. Although, if we're going to be truthful here, the real reason why he made them was because the ones that you buy off-the-shelf have more bolts than are functionally necessary – which doesn't fit the clean look that Mark was so keen to achieve. Looking at pictures of the engine bay, which we'll come to in just a minute, I'm sure that won't come as a surprise to you. He's even had all of the suspension parts powdercoated and new rubbers fitted.

Whilst we're on the subject of the chassis we may as well fill you in on the brakes, which were swapped out for Brembo four-pot calipers from the E32 7 Series clamped to discs borrowed from the E60 5 Series.

With the exception of a retrofitted gauge cluster that sits in place of where the radio was and which monitors oil pressure and temperature, it's all original, as you might expect it to be. The coveted Recaro seats and doorcards together with an M Tech steering wheel were obviously optional items for the 525 and a bit tricky for Mark to source but they're perfectly fitting for this car given what's under the bonnet! Which, at last, leads us to what we've been itching to tell you about: the engine. It's something of a masterpiece in the BMW community at least,

and has taken Mark the best part of two years to complete.

Replacing the old 2.7-litre ETA unit is an M54B30 from a 2001 E46 330i. In standard form it pumps out 231hp and 221lb ft of torque, so with an ECU remap, K&N air filter and custom exhaust system, Mark should be getting a smidgen over those figures. "The most challenging part of the engine swap was that I had to custom fabricate a lot of the mechanical parts," he says. "Fortunately I have a lathe and milling machine in my garage. I also had to redo all of the electronics, including a full wire tuck." That was only just the start to achieving what is quite possibly one of the cleanest engine bays we've ever seen in this magazine.

Prior to this Mark had filled in any holes and deleted any unnecessary brackets before repainting it so that he could begin the process of hiding or simply binning as many parts as possible. The EWS system was removed, for instance, as was the ABS unit, whilst the viscous fan was replaced with an electric fan and mounted in front of the radiator together with the washer fluid reservoir. The radiator was swapped out for an E36 item, which has a custom cover built for it, and the fuse box relocated to where





18" BBS RC090 wheels have been finished with gloss black centres and polished lips; full custom stainless steel exhaust system is finished with a subtle single tip



Cleanliness is the key
to building
a great project car

M54-swapped E28

ENGINE & TRANSMISSION

3.0-litre straight-six M54B30, E36 radiator, custom radiator and battery cover, washer fluid reservoir and electric fan mounted in front of radiator, EWS and ABS removed, fuse box relocated to where the original battery was, E36 headers and full 2.5" custom exhaust system, ECU remap, K&N air filter, all holes filled in and brackets removed, custom engine mounts, engine bay completely resprayed, five-speed manual gearbox

CHASSIS

8x18" (front) and 9x18" (rear) two-piece BBS wheels (with 10mm spacers) with 215/35 (front and rear) Nankang tyres, Gaz Gold coilovers with custom camber plates and shortened rear springs, 3cm blocks mounted between suspension arms and front struts, all suspension parts powdercoated, all-new suspension rubbers, 348x30mm (E60 5 Series) discs with Brembo four-pot calipers (E32 7 Series) and custom caliper brackets

EXTERIOR

Deleted antenna hole and side repeaters, M5 front spoiler and US rear lights

INTERIOR

Recaro seats and doorcards, oil pressure and oil temperature gauges, Sony head unit and Rockford Fosgate amps and subs in custom fibreglass enclosure

DATA FILE

the original battery was. When you peer under the bonnet now, the only items on show are the engine block itself and the brake booster.

What's made the European VW scene so famous is the cleanliness and attention to detail you find in the cars, and this particular build incorporates both with its smoothed-out body work, beautiful paint and an engine bay that's truly uncluttered. "I have never done an engine bay as clean as this. I am pretty proud of it," Mark grins. "It's not that common on the BMW scene and so it's great to bring something different to the table. Everyone seems to like it. Even at Wörthersee this year – predominantly a VW show – the reactions were great. These guys just know when a car is built the right way, VW or not. Cleanliness is the key to building a great project car and it just goes to show that you don't need an endless budget or specialists to call upon."

Truer words have never been spoken. I've come across some people who are what I'd term 'badge snobs' who would never even think to look to owners of other car marques for inspiration. Thankfully this Dutch reader isn't one of them. If you want a lesson in cleanliness then you look at the best – which in this case are the VW builds, and this project goes to prove that by learning from others we can inject something new into our community. Be it hot rods, customs, lowriders, drift cars or VIP saloons, there's plenty of inspiration out there as each corner of the globe has its own unique approach. Come to think of it, perhaps it's worth looking to Sweden – those guys combine aesthetics with (unfathomable) performance unlike anywhere else in the world. Those guys can even make a Volvo cool! ●



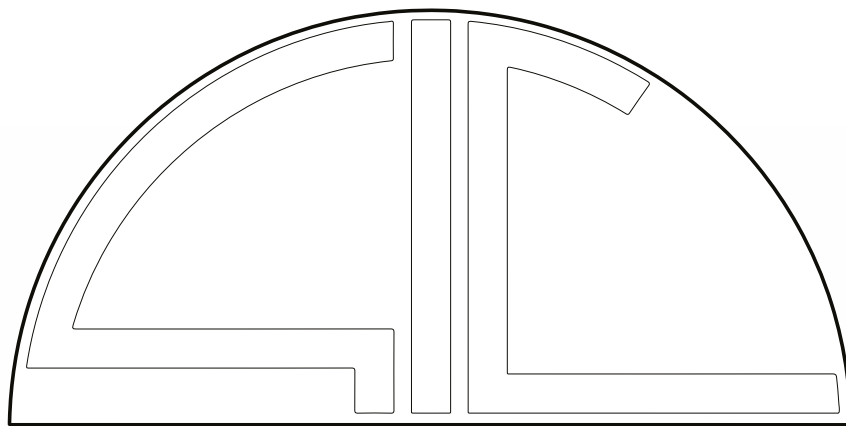
Interior has been treated to some additional gauges along with a pair of original Recaros and M Tech wheel



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BLOWIN' IN THE WIND

When the checklist for your project build features 'must be a daily driver, and must be fun on canyon roads', the E46 M3 is a pretty sound choice. Throw in a supercharger and the job's a good 'un...

Words: Daniel Bevis Photos: Richard Le



There's a lot to be said for being understated. Still waters run deep, as the old saying goes, and it's as true in the modifying sphere as anywhere else that what you see isn't necessarily what you get – it sometimes takes a keen eye or an investigative demeanour to reveal the full story. Picture yourself in a dark, smoky dive bar in a hick town on a windy Friday night – the characters who'll immediately catch your attention are the drunk office girls caterwauling around the jukebox or the frat boys slamming back thimbles of moonshine, but it's the guy sitting alone at the bar that you need to watch out for. The one in the cowboy hat, coolly sipping neat bourbon and eyeballing everybody in the place to get the measure of every last soul – his appearance isn't remarkable, and yet there's something foreboding about his presence that makes him unmissable.

That shadowy, sinister figure is essentially the embodiment of Sonic Motorsports' M3, resplendent as it is in subtle menace and simmering aggression. Sure, it's not the most outrageous or heavily modified E46 to appear in these pages, but it doesn't need to

be, does it? You can tell just from a single glance that it's the sort of car that cashes its own cheques, that doesn't care what you think. Without even seeing it in motion, you just know that it'd be a devastating mover...

To a degree that can be true of any E46 M3. The act of taking a relatively sober-looking 3 Series and shoving in a feisty six-pot producing a power figure that begins with a three was a masterstroke of mischief by BMW and, as the M3 badge's heritage dictates, these cars aren't just about power. They're about poise, handling, finesse, chuckability, precision... there's a reason that they're seen as the benchmark of sporting coupes. But, as is a well-trodden path in *Performance BMW* circles, such things can always be improved. You know this. That's why you're reading this magazine.

The improver in this particular instance is Sonic Motorsports, based in San Jose, California. This outfit, if you're a resident of The Golden State (or even if you're not, to be frank) is one that you need to shuffle on to your list of 'People Who Matter', as there's a palpable whiff of tenacity with a soupçon of fury in the air down on Charcot Avenue.

"I work as the shop foreman and owner at





Sonic MS, so I get to work on a variety of different cars,” says Barrett Howard, the fella with the M3’s keys on his desk. “This one was actually a customer’s car – he had made the decision to move on to the E9x platform, and he offered to sell it to me. I knew that the car had been well taken care of, and the E46 is a phenomenal platform to build on, so I took him up on it. It’s arguably the best handling car in its weight class and it comes with a decent amount of power as well – but of course, that was only a starting point for us!”

Encouraging sentiment indeed, and very much in line with Sonic’s mission statement: ‘practice makes perfect’, they attest, only making upgrades to customers’ cars that fit within their levels of expertise and experience – not to say the guys are afraid to push the boundaries, more that they’re

insistent on any car that goes out the door being tip-top and ready to rock. Sonic believes in doing it right first time, which surely makes for smiles all-round. Okay, this M3 had become Barrett’s own car, so would there be a chance that he and the team would put a little more effort in than they would with a paying client’s motor? No, not a bit of it – because when you’re operating at 100%, it’s not possible to push any harder. And that, again, is a good thing for all.

So, how does one improve upon the already formidable power that the iconic S54 straight-six is serving up? Well, for Sonic it made sense to go down the route of forced induction. “We build a lot of fast cars here, so it was only natural we went down this road,” Barrett explains. “A supercharger was a good start since it doesn’t have the lag associated with a turbo. The Dinan

Supercharged E46 M3

ENGINE AND TRANSMISSION

3.2-litre straight-six S54B32, Dinan Stage 3 Supercharger, Dinan throttle body, CSF radiator, CSF oil cooler, six-speed SMG II gearbox

CHASSIS

9.5x19" (f) & 10.5x19" (r) RAYS G25 wheels with 245/35 (front) & 275/30 (rear) Yokohama AD08 tyres, Öhlins Road & Track coilovers, Hotchkis anti-roll bars (f & r), subframe reinforcements, Powerflex bushes, Brembo GT front BBK, BMW Competition rear brakes

EXTERIOR

CSL carbon fibre roofskin, bootlid and diffuser

INTERIOR

Full custom JBL audio install

THANKS

My crew at Sonic MS and all the vendors that sponsored this build



supercharger setup is pretty comprehensive, but also has the benefit of being a bolt-on package, so the work was fairly simple and straightforward.” The gains for such an upgrade weigh in at around 150hp, which is very significant – think of it as a percentage of the motor’s stock power, it’s actually pretty eye-watering. Even more impressive, then, that the stock internals can take it without bursting. They do make these Motorsport machines strong, don’t they?

Barrett chose to augment this Vortech-flavoured upgrade with some sensible additions, including a Dinan throttle body, CSF radiator and oil cooler, which all coalesces neatly with the SMG transmission

to make for a natty little sleeper. Well, okay, not a sleeper, you can’t really call it that, but it does belie its subtle looks with a raging hellstorm of horsepower.

“I wanted it to be as subtle as it could be, that was the vision all along,” Barrett confirms. “But I also wanted to take a little of the magic of the CSL, to get it as close to that look as possible.” This, it hardly needs saying, is no small undertaking, particularly if your keenness for authenticity extends to grafting in the famed carbon fibre roofskin that the CSL enjoyed. That’s not a five-minute job.

It’s easy to be blasé about the acquisition of CSL parts here in the UK, but this is in

fact a rather more involved task for our Transatlantic cousins – just 1400 Coupé Sport Leichtbau models were built for the 2004 model year, so they’re pretty obscure to start with; however, the bulk of CSL allocation went to Europe, and they just weren’t offered by North American BMW dealers. So if you want to find the parts that were unique to the CSL – such as the carbon fibre roof, the ducktail bootlid, the fibreboard boot floor, or what-have-you, you need to have sufficient fingers in the appropriate pies. But Barrett is a man in the know and, with a crafty tap of the nose, he informs us that he can find such things if required. “The roof and the ducktail are the



most obvious nods to the CSL,” he says, “but with a lot of the modifications, it’s a case of subtle things that only the true enthusiast would spot.” There you go then, a challenge for your BMW-spotting credentials – pore over the photos and see what nerdy details you can find...

Sonic Motorsports, as one might hope, is not the sort of outfit that’ll just throw a load of horsepower into a stock chassis to see what’ll happen – you’ve probably got the idea now, but it’s a belt-and-braces sort of affair. And besides, the guys doing the work are enthusiasts like you, and we all love cherry picking upgrades from the performance catalogue, don’t we?

“The car was built for the purpose of being able to be daily driven, as well as driven hard on the nice canyon roads we have around here,” he says, “and the Öhlins Road and Track coilovers we’ve fitted do a great job of making it comfortable on local roads as well as keeping it planted around

the curves.” There’s a meaty brake setup working hand-in-hand with this too, in the form of a Brembo GT big brake kit up front with BMW Competition items at the rear; all more than up to the task of hauling up a supercharged M3 when the going gets twisty.

As impressive as the build is, we’ve touched on a lot of modifications that represent an established formula here, all of which neatly ties into the aforementioned ‘practice makes perfect’ ethos. The supercharger upgrade, the CSL aesthetics, the taut combo of Öhlins and Brembo, it’s all very logical. So what Sonic needed was a hook, something to work with the subtle look of the car while at the same time offering something unusual and offbeat – and it’s for this reason that you’ll find a set of RAYS wheels under the arches. RAYS is a Japanese brand, which immediately jars with the Bavarian DNA, whose history lies in motorsport, and Volk Racing is a sub-brand that offers super-light forged sports

wheels such as the G25 you see here.

They’re not just a cool design, they are also very much fit for purpose on a performance car such as this, as well as offering something that you perhaps wouldn’t expect to find on an E46.

Job done then, yes? Time for Barrett and his colleagues to clap their hands together, congratulate one another on a job well jobbed, and move onto the next one? No, not quite: “Oh, I’ve got more in store,” he smirks. “It’ll be needing a manual gearbox conversion at some point. And I’m planning a turbo kit for it right now...”

Exciting times. And whatever happens, you can be sure that this M3 will remain resolutely under the radar as it scythes through the canyons, appearing to passers-by as little more than a deep blue flash and a sinister rumble before it’s merely a memory, a whisper on the breeze. You don’t always have to shout to be heard. Sometimes subtlety makes the strongest statement of all ●

“I wanted it to be as subtle as it could be,
but I also wanted to take a little of the
magic of the CSL to get it as close
to that look as possible”





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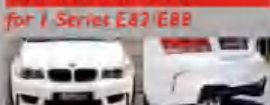
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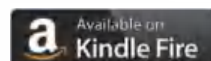
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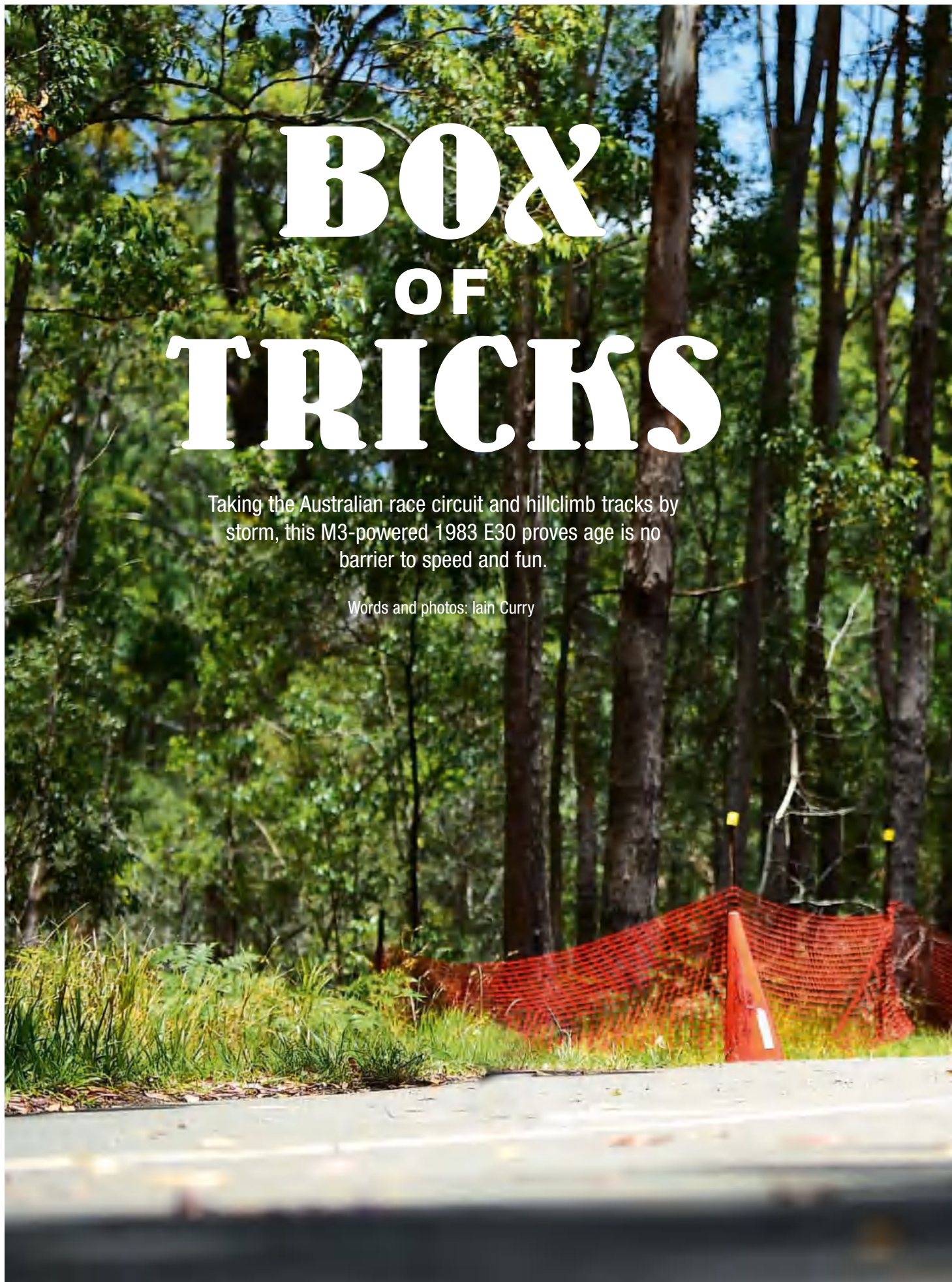
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BOX OF TRICKS

Taking the Australian race circuit and hillclimb tracks by storm, this M3-powered 1983 E30 proves age is no barrier to speed and fun.

Words and photos: Iain Curry







Old BMWs never die, they just get faster'. As bumper stickers go it's a pretty corny one, but for a certain Australian E30 the line was so perfectly relevant owner Piers Harrex couldn't resist adding it to his racing car's rump. With as good as 300 horses at the rear wheels, this 32-year-old E30 has been saved from the scrapheap and turned into one of Australia's most accomplished and feared circuit and hillclimb weapons.

It's the latest creation from the dream factory that is Brisbane-based RX Automotive, a BMW specialist that is the go-to place for any serious racing or fast road upgrades in the Sunshine State of Queensland. Piers is the current star driver of the family business, established nearly 40 years ago by his British-born father Simon Harrex, himself having enjoyed a stellar racing career Down Under. Harrex senior kept busy away from the track with a race car fabrication and preparation business,

and soon discovered the benefits of specialising in BMWs; growing a passion for the marque that son Piers has inherited.

Harrex junior began an apprenticeship at his dad's workshop as soon as he finished school, but before venturing into BMWs began enhancing a Toyota Celica and then created a Group A-style SD1 Rover with a worked engine. "With the Rover being an English car, it got to the point where the interior was breaking all the time," Piers said. Dad Simon may be of English heritage, but he knew the Germans trumped the Brits in a car's reliability stakes, so suggested his son try a BMW – specifically an E30 model – if he wanted to start hitting the race track.

Ever since his first introduction to the E30, Piers has never budged from his belief they are superb race cars. "I've had six now I think, either wrecks to take parts from or racers," he said. The most desirable from his point of view are pre-1986 E30s as this year is the cut-off point for many permitted modifications in the Improved Production

racing class he's competing in this year.

This brings us to his immaculate E30 racer, which began life in 1983 as a white 323i. It had been sitting in a car yard practically abandoned for a few years before the Harrexes handed over \$250 (just over 100 quid) and trailered it away. "The driver's window had been smashed and rubbish was being thrown into it," Piers said. "One of my first jobs with the car was to remove a mouldy loaf of bread from the interior!"

Progress then moved apace. Piers stripped the interior entirely and took a high pressure cleaner to the shell, repaired the small amount of rust he found and had a roll-cage welded in. For a more enhanced racing look he sourced fibreglass wheel arch flares in the shape of BMW's venerable 2002 Turbo models from 1973, cut out 70mm of the original guard and fibreglassed them in place. He then gave the rolling body to Queensland paint guru and PBMW feature car owner Julian Seeger, who applied Voodoo blue paint from Toyota's funky



“One of my first jobs with the car was to remove a mouldy loaf of bread from the interior!”

Rukus model. “As a race car it needed to be a colour that was bright and stood out against all the other cars out there,” Piers explained, and the modern colour certainly adds more verve to this E30’s body.

The exterior has also been modernised with a fibreglass front bumper created using a mould of Australian Touring Car legend Tony Longhurst’s Benson and Hedges-sponsored BMW E30 racer. A custom aluminium splitter was added to this, while the 1983 BMW’s chrome rear bumper – which had to remain in situ for the Improved Production series – was taped over and colour-coded for a sleeker style.

Under the wider arches are Alpina 7x15” rims from the first generation E21 3 Series, which proved ideal for an old school style and meeting the size requirements stipulated by the Improved Production rules. These are shod in Yokohama A050 semi-slick tyres, which Piers said were ideal for hillclimbs as they are sticky even when cold: there are no warm up laps in hillclimbs remember.

Hillclimb E30

ENGINE

3.0-litre straight-six S50B30, 308/315 Schrick cams, VAC Motorsport stainless one-piece valves, high compression CP forged pistons and Carrillo rods, carbon fibre air box, Exhaust Innovations manifold leading into a full stainless steel exhaust system, Bosch 044 fuel pump feeding Powerplus 108+ race fuel from boot-mounted aluminium fuel tank, Motec M84 engine management system. 298whp and 384lb ft of torque

TRANSMISSION

ZF Type C five-speed manual from E36 M3 3.0-litre, E36 328i driveshaft, E30 M3 75% locking diff

CHASSIS

7x15” (front and rear) Alpina E21 wheels with Yokohama A050 semi-slick tyres, Ground Control suspension using Eibach springs and Koni shocks, VW Corrado brake discs with Mazda RX-7 four-piston callipers (front) and Nissan Skyline twin piston callipers (rear)

EXTERIOR

Fibreglass front bumper created using a mould of a B&H-sponsored Australian Touring Car E30, custom

aluminium front splitter, BMW 2002 Turbo-style fibreglass wheel arch flares over the original guards after 70mm had been cut away, taped over and colour-coded chrome rear bumper, carbon fibre bonnet and bootlid with pins (replaced by standard steel items for Improved Production racing), Toyota Rukus Voodoo blue paint by Jo Seeger Smash Repairs, colour-coded kidney-grille surround, black plastic wrap over headlight lenses with custom painted chrome rings clipped on, E30 DTM mirrors

INTERIOR

Fully stripped interior with V8 Supercar carbon kevlar racing seat, Sparco four-point harness, Momo suede steering wheel, white Auto Meter Pro-Comp gauges in custom panel, adjustable throw gear stick, custom Barsted Rollcages roll-cage, Aerospec woven cloth for dash and door cards, boot-mounted aluminium fuel tank with Teflon braided hoses and ProFlow pressure gauge

THANKS

RX Automotive Brisbane, Jo Seeger Smash Repairs Hervey Bay, Robert Novak of Definition Motorsport for the Motec and dyno work



“As a race car it needed to be a colour that was bright and stood out against all the other cars out there”



A common upgrade well-known in E30 circles is using VW Corrado brake discs and Mazda RX-7 four-piston callipers front and twin-piston Nissan Skyline callipers rear. Piers has done just this to improve stopping power, and in a nice touch to hide the imposter brake parts, he's added yellow BMW Motorsport stickers to the calipers. Suspension-wise the racer has opted for a Ground Control setup – using Eibach springs and Koni shocks – which Piers said is well-proven for track and hillclimb use.

The serious work has really come under the bonnet. The Improved Production class allows for certain engine swaps, and Piers has done so by transplanting a 3.0-litre six-cylinder and its five-speed gearbox from an early E36 M3. This engine had detonation problems, so Piers used just its original block and head, building up the rest using brand new components.

It has been enhanced with 308/315 Schrick cams, larger VAC Motorsport stainless one-piece valves, high compression CP forged pistons and Carrillo rods, then given a carbon fibre air box and Exhaust Innovations manifold leading in to a full custom system. A Bosch 044 fuel pump helps deliver Powerplus 108+ race fuel from a boot-mounted aluminium tank and through Teflon braided hoses, with the

whole setup managed by a Motec computer.

It means this 1983 one-time 150hp 323i is now good for a confirmed 298hp at the rear wheels and 384lb ft of torque. Incredible stuff for a naturally aspirated S50B30 six-cylinder, but to be expected from a racing workshop no stranger to getting the best out of these BMW M Motors. And with the old E30 weighing in at just 1010kg with Piers in the car, that's a very handy power-to-weight ratio. The gearbox that came with the 3.0-litre E36 M3 motor – the old five-speed manual – has been retained and given an adjustable throw gearstick, while an E36 328i driveshaft and E30 M3 75% locking diff give more confidence for race weekend.

It's true racing business in the cabin, and like the rest of this car, beautifully finished. The driver has a carbon kevlar race seat – from a former V8 Supercar (the Aussie version of our touring cars) – and is held in place by a Sparco four-point harness. Piers has custom-made the dash panel and centre console to contain all the switches, lights and instruments, headlined by white Auto Meter Pro-Comp gauges. Another nice touch – and wonderfully lightweight – is the woven cloth for the dash and doorcards, custom-made by specialist Aerospec.

So, in reflection, quite the race tool. We caught up with Piers competing at one of his

favourite Australian events, the infamous Noosa Hillclimb. It is just under one mile of steep gradient and 14 turns, with the course lined with concrete barriers one side and tree-lined drops the other. In other words, mistakes are always expensive. Piers said he was able to run the whole course in third gear alone once he'd got away from the start line thanks to the 4.67 ratio diff he used from an E30 M3 (this is one of ten he chooses from depending on the type of race event). Thinking about every hundredth of a second as a race driver should: "Why waste time changing gears?" he said.

Taking class honours in the 2014 Noosa Hillclimb and 15th out of 153 overall, it wasn't a bad weekend's work for the E30. With a happy grin Piers explained that his latest creation is a lot more animal than anything he's made before. "Even so, it's very neutral to the driver; I thought it would be more taily," he said. "It still lights its wheels up, but it's very predictable.

Yet so versatile is this old E30 – helped by Piers' expert mechanical setup – that the blue beastie can be tackling one of Australia's race circuits almost immediately after a hillclimb. And rest assured it will be terrorising 911s on long track straights just as much as it does Subaru Imprezas in the bends ●

bags to the future

Ashley Morrell's Z4 is constantly pushing him further and further down the modifying road. And you know what they say – it's more about the journey than the destination...

Words: Daniel Bevis Photos: Mathew Bedworth







The Z4, it has to be said, is quite a weird little car. They generally pass reasonably unnoticed today, thanks to the inherent cushioning system of Father Time's mighty pendulum – the fact that they've been around a few years means that we're used to them, we've accepted them. Radically designed cars don't stay radical for long – the Ford Ka, the Peugeot 206, the Fiat Multipla, they seemed outlandish and alien and daft-as-a-brush at launch, but now they're just other cars to blend into the mish-mash of day-to-day traffic.

The E85 Z4 very much belongs in that list too. As a replacement for the Z3, it was a pretty bold step; the Z3 had the classic roadster profile – long bonnet, rearward cabin, stubby tail – and the Z4 built on these design touch-points, but added in a whole heap of strangeness. Look at it side-on, for example, and try to work out what the thinking was behind the front wings; there's quite a wide variety of lines and angles vying for attention there. The rear bumper appears to be wearing a droopy moustache like a

pantomime Mexican villain, while the front end looks a bit like Marvin the Paranoid Android from the 2005 movie adaptation of *The Hitchhiker's Guide to the Galaxy*.

This, of course, is all very good. Life's too short to drive boring cars, and BMW's decision to infuse a whole bunch of weirdness into a model it knew would be a volume-seller ought to be robustly applauded. Furthermore, it means that modifiers with an eye for the offbeat have an interesting alternative to chance their customising arms on, thanks to the model now becoming increasingly affordable as a second-hand proposition. It certainly flicked Ashley Morrell's switch. He's the creative force behind this particular low-down Zed, and it's by no means the first oddball he's spannered together.

"I guess I've been in the modding scene for around nine years now," he considers at length, scratching his chin and peering into the middle-distance. "I've had four cars in that time, which isn't a huge number by some people's standards, but I've always been known for doing something a little bit

unusual with them. I'm not really keen on doing things that everyone else has already done, I like to put my own mark on my cars." His first full-on build was a case in point, a Citroën C2 which surfed the swelling tide of the nouveau-look, all forced patina and belligerent scruff.

"It was right at the start of the whole nut-rat thing, and it was a pretty radical thing to do to a brand-new car," he says, a sparkle in his eye as if the mischief of it all is only just dawning on him. "Yeah, that was pretty out there. My Mk3 Golf got fairly extreme too, I went a bit crazy on it; five interiors, three resprays, three engines and eleven sets of wheels over three years! By the end of that project, I found myself with a set of stupidly wide American rims, and effectively making the car fit the wheels, which involved all sorts of cutting and welding!"

So if he was that deep into the VAG scene, why the switch to BMW? "Well, after going through my thirteenth sump in six months I decided it was time for a bit of a change," he laughs. "I wasn't really sure what I wanted – part of me was keen on the idea of some



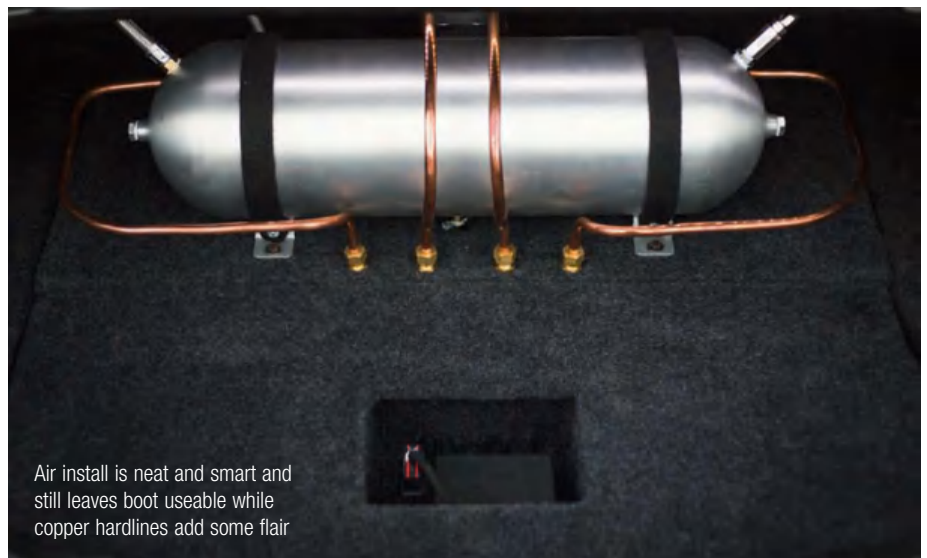
sort of estate – and I’m not sure what drew me to the Z4 at first, but once I started looking at them, they got stuck in my head. I knew that was the car I wanted next.”

And so the infamous P22 OKE plate found itself being extracted from the Golf and affixed to a shiny silver 2004 Z4 2.2i. “I searched and searched for the right Z4, which wasn’t easy as there don’t seem to be many here in South Wales – must be something to do with the constant rain,” he reasons. “But one day a friend of mine in Cardiff mentioned that he’d seen one come into a garage local to him. I went to see it straight away, and took it home the next day!”

The car was showing 69k on the clock, stock as a rock, and as tidy as Ashley could hope for. All-in-all, a pretty decent base for a project. So, what manner of madness lay ahead for the wacky little roadster? “Well, there wasn’t a plan as such, not from the start,” he recalls. “Having bought it, I just intended to stick some nice wheels on it and enjoy it. But once the wheels were on, it obviously needed lowering, and it all sort of snowballed from there.”

Yep. Of course it did. We hear that a lot. It’s impressive to note, in fact, that Ashley managed to hold out for an entire year with just rims and coilovers before he began to delve deeper. A new set of wheels beckoned; a brilliantly offbeat foursome of Rial Imola splits, which were reworked in custom candy apple red paint and a spangle of retro Seventies gold metalflake thrown in, but it quickly became apparent that wheels this fancy need a killer stance to set them off. So, with a creeping sense of inevitability, the irresistible lure of air-ride arose.

“At that time there really weren’t many bagged Z4s around, so it felt like something pretty fresh,” Ashley explains. “I bought the kit from Plush Automotive and fitted it all myself, along with a few friends who offered to help.” He ought to be particularly proud of those custom copper hardlines which really set off the boot install, and he’s keen to make the point that anything he was physically able to do on the car, he did himself. Not to show off, but simply as a matter of pride – it’s his car, built his way. “If you ever feel like taking apart the inside





Bagged E85 Z4 2.2i

ENGINE AND TRANSMISSION

2.2-litre straight-six M54B22, K&N filter, custom stainless steel exhaust with back box-delete and twin tailpipes, five-speed manual gearbox

CHASSIS

8.5x17" (front) and 10x17" (rear) Rial Imola two-piece split-rims with polished lips and custom candy apple red with gold metallflake centres and 205/45 (front) and 215/45 (rear) tyres, adjustable front camber mounts at 3.0 degrees and rear camber arms at 5.5 degrees, AirREX Sport air-ride system with V2 four-way digital management, custom copper hardlines

EXTERIOR

Smoothed pre-face-lift Z4 SE front bumper, black lower valance, black-insert headlights with US running lights, custom clear side repeaters, tinted rear lights, carbon fibre wing mirrors, black roundels, black kidney grilles, flared and rolled arches

INTERIOR

Carbon fibre door handles, handbrake handle and steering wheel controls, 1M gear knob, retrimmed M Sport steering wheel by Royal Steering Wheels, seats retrimmed in black leather with Bentley diamond stitching, custom mount for V2 controller

THANKS

I'd like to thank a few people who have helped me with fitting things and some companies that have chosen to sponsor me over this year: my friends Kieran Phillips and Nick Wealleands who helped with the air-ride and hardlines, Tom Beleschenko (@twosugars88 on Instagram) for painting the wheels and other bits, Aaron Brooks (@techho_sceneecleanvaleting) for detailing the car, Gary at NeatSeats for the great work on the seats, and my sponsors E11evens, Cleanitkit and GlobalGrind

panels on a Z4, I recommend you don't," Ashley sighs. "Three hours to take off the centre console? Well done BMW! But the only thing I couldn't do myself was the retrim of the seats; that was handled beautifully by Gary at NeatSeats."

They do look pretty cool too, resplendent in black leather with diamond Bentley stitching, and they're complemented by a whole bunch of carbon fibre accents throughout the interior to really imbue it with a premium road-racer vibe. Indeed, since our shoot Ashley's been busy having various interior surfaces retrimmed in Alcantara, which speaks volumes about his twin focus on function and aesthetics.

The exterior of the car is something that he felt had to be as uncluttered and simple as possible, to accentuate the proportions of the car rather than draw unnecessary attention to its details. For this reason, he's

swapped on a pre-face-lift front bumper which has been extensively smoothed and had its numberplate recess deleted. The vast majority of the factory chrome accents have either been junked or replaced with black items; the kidney grilles and BMW roundels, for example, have lost their mirror shine, and even the lights have been dimmed down to suit. It's a masterclass in subtlety, with plenty of details for the Zed-nerds to seek out on the showground.

"One thing I get asked a lot is how old the car is, and people are often surprised that it's a 2004 model given how tidy it is" he says. "I use the car every day, and I run it low. I haven't really built the car to go on track, and people have said I've ruined the Z4's handling because of the air-ride, but to be honest with the AirREX Sport bags I'd say it actually handles better than when it was on coilovers! On the whole, the car gets

mixed reactions – the Z4 purists hate it, of course, but I didn't build it for them, and it does give me a bit of a kick when people stop to take photos of it. One girl I was on a date with thought I was famous because of all the people taking pictures!"

Amusingly at this point, Ashley seems to be suggesting that the project is finished. He's got the car the way he likes it, and he's ready to just enjoy it. But you and I know that's nonsense, don't we? Take that old Golf as a lesson; this is a guy who just can't leave things alone: "Oh, alright, you got me," he concedes. "I will probably do something with the audio over the winter. I fancy a bit more carbon fibre too. Oh, and there's always new wheels..."

It's pretty much a done deal that this car will be looking subtly different next time you see it. Ashley's move into the BMW scene seems to be fitting him rather well ●



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RWYB WINNERS:



Class A – 1 Series
Christian Prendergast
11.6212secs @ 120.77mph

• SANTA POD • BMW SHOW 2015

Sun, fun and plenty of BMWs at this year's Santa Pod event...

Words: Elizabeth de Latour
Photos: Matthew Dear and Santa Pod



For one reason or another the Santa Pod BMW Show may not have the best reputation among those on the modified BMW scene but, whichever way you look at it, the 2015 offering was a fantastic show and an excellent way to round off the show season as this was, for many, the last outing of the year for their BMWs.

The weather was spot-on and the turnout absolutely massive. If you like modified BMs, the Santa Pod show does not disappoint and there was something for everyone among the vast sea of cars. From Show 'n' Shine to club displays, RWYB to the

handling track, whether you wanted to park up and enjoy the sunshine or hit the strip and lay down some rubber, or buy a T-shirt and eat a baguette, Santa Pod had it all.

There were far too many BMWs out on the day to be able to get a handle on even half of them but a few stuck in our minds. We loved Mark Brown's stunning Laguna Seca E21 running an M52B28 swap; it was never without a crowd of admirers and took home one of the 'Top Five' trophies, deservedly so, especially as he'd driven up from Cornwall to be there! We were loving the vibrant Java green E92 M3 and F82 M4 and the pairing of James Barrett's Grigio E46 M3 (as featured in

last month's edition) alongside better half Dee Barwick's 123d Coupé (coming soon). The red E24 635CSi of Kos Loizou was looking ridiculously shiny and Paul Tatum's beefy E92 M3 on Schnitzers was getting plenty of admiring glances. We were big fans of Dan Lewis' E28, which took home the 'Judges' Choice' trophy, and the sensational 2002 of a chap called Aaron (his name was stuck under his bonnet as he wants a new one...). We spotted David Byrne's ridiculously well-modified supercharged E46 330Ci (which we featured in the October issue) and also came across a wild, wide-arched E36 M3 on Z3 M alloys belonging to Chris Pattrick – expect to



Class B – 2 Series
Martina Hristova
13.3078secs @ 106.42mph



Class C – 3 Series
Paul Bareham
11.7904secs @ 106.42mph



Class D – 4 Series
Simon Calvert
12.8651secs @ 105.42mph



Class E – 5 Series
Jaroslaw Skiibinski
12.807secs @ 115.37mph



Class F – 6/7 Series
Jey Javcud
13.374secs @ 110.18mph



**Class G – M Series
(Naturally aspirated)**
Apostocos Samartzrs
13.0622secs @ 110.04mph



**Class H – M Series
(Forced induction)**
Imran Arshad
11.4974secs @ 129.16mph



Class I – i3 and i8
Ian Wright
15.1143secs @ 92.34mph



Class J – X Series
Gary Roy Iron
15.32secs @ 90.88mph



Class K – Z Series
Brian Watkins
14.0564secs @ 99mph



Class L – BMW Bikes
Paul Marsden
10.6171secs @ 145.73mph



Class M – BMW MINIs
John Hammond
13.8253secs @ 102.58mph

see it in a future issue. Alex Barnett brought along his beautiful bagged E36 M3 (also coming soon) and another E36 that caught our eye was the stripped-out turbocharged example of Bradley Wherrett that was pounding the strip throughout the day.

The E30 contingent was out in force and there were some spectacular cars present: Ross Bradley's mental twin-turbo Chevy V8-powered example was, as usual, surrounded by a crowd of slack-jawed enthusiasts, and Sam LeFevre brought along his supercharged RHD E30 M3 ex-PBMW cover car. Max Marshall showcased his spectacular twin-turbo M60 E30 track beast

and we also loved Ian Hodge's E30 Touring track special – it's great to see someone turning the classic load-lugger into a proper weapon. We also spotted a wide-arch E30 running a supercharged M60, which belonged to Paul Petty, and Keith Waterhouse's awesome V10 M3. Elsewhere, Kris Rourke had brought along his Eaton supercharged E28, an impressive creation for sure, and which forms a supercharged family duo with his dad's centrifugally-blown E28. We thought Andrew Pietrareanu's seriously low static E36 looked spectacular on its Corvette 'Sawblades'.

While we were there we popped on to the

Thorney Motorsport stand to peruse its wares. The company was once again sponsoring the event, putting up the generous prizes for both the 'RWYB' and 'Handling Track' winners. As well as the striking M4 that Thorney is continuously developing, and which we're running in *Our Cars*, it brought along its ferocious X5 M, which took to the strip and soundly thrashed said M4.

As far as shows go, the Santa Pod BMW show really takes some beating and we defy you not to be impressed with the machinery on show. If you've never been, make 2016 the year you go ●



SHOW 'N' SHINE WINNERS:

Best of Show



Terry Bean
E38 750i

Best New MINI



Trevor Robinson
MINI Cooper

Best Bike



Cem
S1000 RR

Top Four



Scott Hawkins
E93 M3



Mark Brown
E21 316

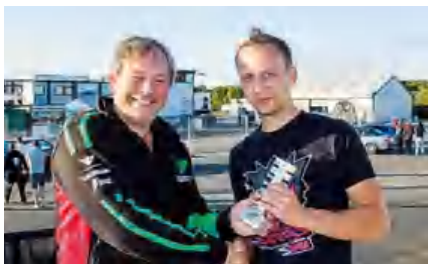


Denis 'Phoneixx' Marasciulo
E36 328i

HANDLING TRACK WINNERS:



Class A – 1 Series
Christian Prendergast



Class C – 3 Series
Ronalds Bitmanis

Class G – M Series
Tom Stanway

Class E – 5 Series
A.S. Chelariu



Lal Miah
6 Series



Judges' Choice

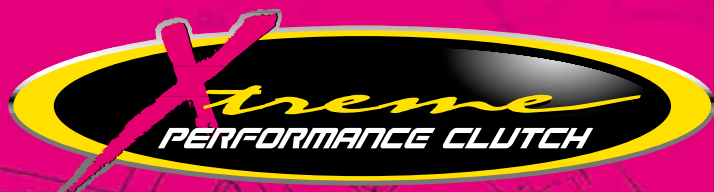
Dan Lewis
E28 520i



GOD OF THE POD:

Po.	Name	Sprint Time	Sprint Points	Name	Drag Time	Drag Points	Total Points
1st	Ronalds Bitmanis	32.84	30	1st	Christian Prendergast	11.6212	55
2nd	Tom Stanway	33.1	29	2nd	Paul Bareham	11.7904	57
3rd	Paul Bareham	34.78	28	3rd	Tom Stanway	13.7208	57
4th	Ian Wright	38.74	27	4th	Gabor Dory	13.9264	53
5th	Gabor Dory	39.66	26	5th	Ronalds Bitmanis	14.144	56
6th	Christian Prendergast	39.69	25	6th	Ivan Reed	14.4429	49
7th	Ivan Reed	40.35	24	7th	Ian Wright	15.3627	51





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Players 2015

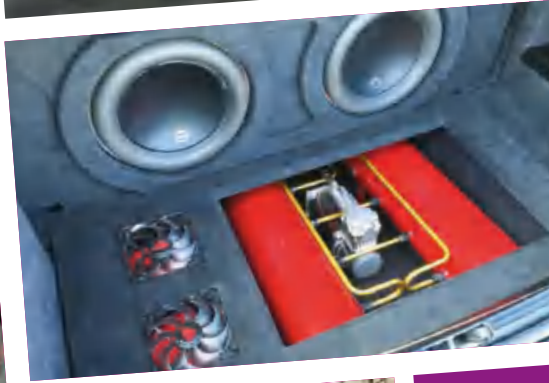
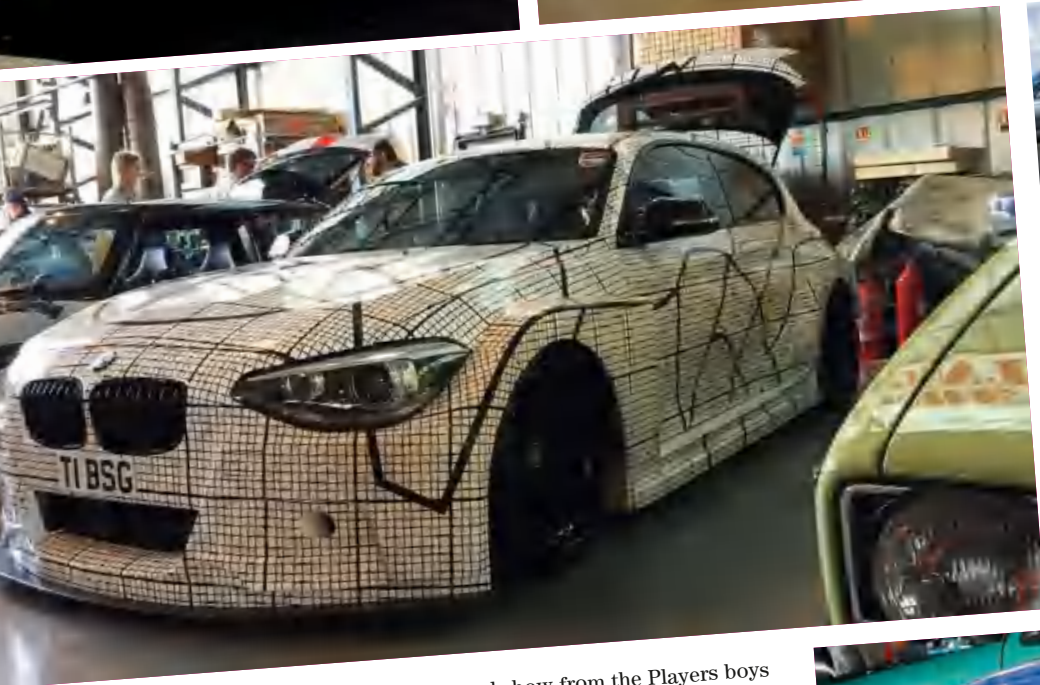
Back once again and bigger than ever,
the Players main event is a grand day out.

Words: Elizabeth de Latour Photos: Rash Bajwa and Elizabeth de Latour



Above: Beautiful E39 on custom Alpina Softlines; Left: you can't go wrong with a Santorini E30 M3; Below: bagged E60 5 Series on 20s; Right: Z3 Roadster with Lambo splits – a stunning combination





You can always count on a good show from the Players boys and this year's main event was no exception, the show being significantly larger than previous gatherings... and that's saying something considering the popularity and scale of Players.

North Weald once again played host to masses of modified cars; the thing that makes Players so appealing is the all-inclusive nature of the show, with pretty much everything welcome. Show-goers could be seen appreciating all the cars on offer, as Jap performance machines nestled next to stanced VWs and American muscle machines sat alongside seriously modded BMWs – and there were plenty of these to enjoy.

The standard at Players is always incredibly high and we reckon there wasn't a bad BM in the bunch, with a mix of show regulars plus some cars that we've not seen so much of. Dips (with his bagged E46 M3 on its copper 19s) summoned his Custom Car customers who brought along a fine selection of cars, such as Sumil's seriously nice air-ride E39, Jags Bath's vibrant E93 M3 and Steve's E46 M3 to name but a few. Wandering through the sea of parked cars we came across a pretty tasty E63 6 Series, a rare sight at shows, and also spotted Marsel Theodhori's mental turbo E28 sitting next to a gorgeous M635CSi and an Alpina B10.

Sticking with E34s, we were loving the seriously clean Calypso example on MKs and couldn't help but stop and stare at a matt E36 Cab



Left: we were loving this E30 Touring on OZ Futuras; Right: Prakash Thanky's fantastic E21; Below: awesome F83 M4 Cab





with some serious spoilerage and shiny Work Meister S1s. Ross Bradley had brought along his twin-turbo V8 E30, as had Max Marshall, the latter keeping things OE with an M60. We're really looking forward to featuring both, so keep 'em peeled! Nick Sahota's orange E30 M3 was on display and not far away we saw Matt Clifford's rather sexy Velvet blue 840Ci and Beck's stunning bagged E39 sitting on custom Alpina Softlines. Venturing into the hanger we spotted Lawrence Warner-Green's bagged E60, now on 20" 3SDM 0.08s and sporting an M Sport kit. It's great to see a well-done newer Five getting some love. From Belgium there came a very clean E28 on ridiculously dishy BBSS, Tej Bajwa's glorious Santorini blue E30 M3 and Tom Lilico's ridiculously low Z3, with those Lambo wheels being the perfect choice for the roadster.

That's just scratching the surface and we were genuinely blown away by the quantity and quality of the BMWs that had come along. It was just a great show all round, really, and it's easy to see why it's so popular and keeps on growing. We're looking forward to seeing what next year brings and suggest you definitely put Players in your diary for 2016 ●



Left: Max Marshall's mental twin-turbo M60 V8-powered E30; Far left: gorgeous Calypso E34 on MKs and air-ride E30 Touring



Left: E36 Cab on Gottis and bagged E46 M3 on 19s with copper accents; Bottom: awesome bagged E39 on custom Hartge splits

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GAZ SHOCKS BMW COMPACT CUP ROUND 4

OULTON PARK

After the busy and intense races at Croft last time out, the BMW Compact Cup competitors were hoping that the racing would be a little calmer at the picturesque Oulton Park Circuit... although, once again, there was a capacity grid of nearly 40 cars!

Words: James Foard

Photos: James Foard and BMW Race Days

QUALIFYING

Due to the full grid, come qualifying space for a quick lap was all important. The times were, as ever, incredibly close but it was Jon Watt who stole pole position with a lap late in the session. His time of 2:06.857 was just 0.046 seconds ahead of Mike Tovey who, in turn, was less than 0.1 seconds faster than the championship leader Steve Roberts. Next up was James Gornall, followed by Paul Hinson, Joe Wiggin and Owen Hunter, all of whom were within one-second of the pole position time! Rounding out the top ten on the grid for race one were Jonathon Davis, Declan McDonnell and Ben Pearson.



RACE ONE

- 1 James Gornall
- 2 Ben Pearson
- 3 Jon Watt

Fastest lap: 2:07.003 (Mike Tovey)

As the lights went out for race one the RAW Motorsport duo of Tovey and Roberts got away fastest and were side by side through the first sequence of corners. However, it soon turned to disaster, as down through Cascades both wanted to be the last of the late brakiers! On cold tyres Tovey's compact had a slight twitch which was enough to see him spinning onto the grass and to the back of the field. Roberts also ran wide which hindered his progress as he rejoined in 20th position. Jon Watt was also slowed by the incident and so by the end of lap one he'd dropped to fourth place, behind the leader Hinson. The fast starting Ben Pearson was

now in second, up from tenth on the grid and Gornall in third. As the race unfolded Gornall was able to pass Pearson for second but he could not do anything about Hinson in the lead. That was until the final lap, when Hinson had a wishbone failure which robbed him of his first Compact Cup victory and handed a first win to James Gornall instead. Ben Pearson managed to hold off a race-long attack from Jon Watt for second, with Declan McDonnell, Joe Wiggin and Owen Hunter all in close attendance to round out the top six. Steve Roberts recovered to 14th by the flag and Tovey to 21st, who also claimed fastest lap by over a second in the process!



RACE TWO

1 Steve Roberts

2 Mike Tovey

3 Jon Watt

Fastest lap: 2:07.498 (Jon Watt)

The race two grid lined up using each driver's second fastest lap time. Thus the front row saw Tovey on pole with Roberts alongside. In third and fourth were Jon Watt and James Gornall, with the top six completed by Joe Wiggins and Paul Hinson. As has been the case so often this year, Roberts made a great start and led Tovey around the first lap, whilst behind Gornall made it past Watt. As the race unfolded Roberts and Tovey broke away from the field, engaging in a private

battle for the win. Similarly Gornall and Watt had also got clear of the pack and were battling for the final spot on the podium. Despite intense race-long pressure and a few moments where Tovey nosed ahead, Roberts held off Tovey for the win, with Watt taking third on the final lap. Behind Gornall was fourth, Owen Hunter took fifth after a duel involving Paul Hinson, Joe Wiggins and Jonathon Davis. Ian Jones and Dan Kirby rounded out the top ten.



NEXT ROUND

Despite his troubles in race one Steve Roberts still comfortably leads the championship, with James Gornall now his closest challenger after Mike Tovey also dropped points in the first race. Silverstone will play host to the Compact cup next time out and with its wide open layout it should lend itself to more close racing for all the drivers, myself included! ●



Elite Developments' monster turbo E36 was among the BMWs present on the day





LOW COLLECTIVE 2015

Held in the Suffolk countryside, this year's Low Collective show offered up a fine selection of modified German machinery.

Words and photos: Elizabeth de Latour

If you venture into the Suffolk countryside one weekend in September you may well find yourself at the Low Collective show, an annual German gathering that brings together a fine selection of modified machinery. The event is held at Stonham Barns which, as the name suggests, is a collection of barns that house numerous things such as craft shops and an owl sanctuary, obviously... but beyond those is a field where the Low Collective show is held. The venue isn't huge but it is perfectly formed and the team enforces its German-ness with an iron fist (we saw Japanese interlopers being turned away from the display area and ushered to the car park), which is good because if you're selling a German show, you want to keep it German.

As you might expect from a German show, the VAG turn-out was strong but the

BMW boys and girls made the effort too and as the day went on a steady stream of modified Bavarian machinery rolled through the gates and spread itself across the field, with a few also making their way into the central display paddock.

We gravitated towards the green E34 540i of Fred Marsh-Allen, partly because it's a great-looking car, partly because it looked fantastic on its deep-dish Contours but mainly because it's supercharged, and it's so good to see someone giving a classic like this a serious performance upgrade. So good, in fact, that you can expect to see it in the mag very soon. Rob Johnston had also brought along his slick E64 650i, which looked very nice slammed on 20" 3SDM 0.01s and we also spotted a rather tasty E92 Alpina B3 Bi-turbo, not something you're likely to see very often.





BMW V8-powered Morgan Aero Coupé a rare sight, not surprising at £100k...



Adam Fitch had come along in his E46 Coupé on OZ Mito splits while Elite Developments had brought along its mental turbocharged E36 complete with bolt-on arch flares and stripped-out interior – it's a hell of a machine. If you like your BMWs a bit different then you would definitely have appreciated the matt grey E36 pick-up conversion that was on show, though perhaps traditionalists might not be so accepting. We also really liked the look of an E36 Touring sitting low over a set of BBS RK2s – simple but really nice. We were also keen on a matt blue E46 Cab; not a shade that people tend to go for when matt is mentioned but it worked really well.

Something we can almost guarantee you've not seen at a show before is a Morgan, which was great to see. Someone had brought along a £100,000 BMW V8-powered Aero Coupé too, which was getting a lot of love, but not quite as much love as Ross Bradley's twin-turbo V8 E30, the only BMW on the day to take home a prize, so hats off to Ross.

This was our first outing to the Low Collective show and we'll definitely be coming back for more – it had a really nice, chilled atmosphere, a good selection of great cars and plenty to keep the whole family amused. After all, you can't go wrong with owls and modified BMWs, can you? ●





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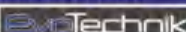


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Hold a BMW mini-meet at Munich Legends with added BBQ and you're guaranteed to have a good night.

Words: Elizabeth de Latour Photos: Bob Harper

Have you heard of Auto Tweetup? Possibly not and the reason would most likely be that it was originally created as a way for motoring journo's, especially those who love a bit of the old Twitter action (hence the name), to get together IRL and have a good old natter about cars and writing about them. However, by putting together a BMW-specific event, holding it at Munich Legends' HQ and opening it up to all-comers, it's turned into a bit of a mini-meet.

For the evening Munich Legends opened up its showroom which was filled with M1s, a CSL Batmobile racer and numerous other deliciously rare performance offerings, while the pub next door put on a BBQ. As you can imagine, this made for a fantastic night of BMW-based fun.

As it wasn't just another modified show, the variety of machinery on display was seriously impressive, with pristine E24s rubbing shoulders with Z8s alongside the likes of my E39 and modded M machinery.

The turnout was bigger than we could have imagined, with cars filling the car park, spilling out into the field beyond and the road in front. The BMW chat continued long into the evening and the car park showed little sign of thinning out as we called it a night and headed home about 9pm.

Each Auto Tweetup event is unique in terms of location and focus, so there probably won't be another one quite like this, however it was a great evening and made a nice change from the usual shows, as the impressive turnout and selection of cars demonstrated ●

AUTO *TWEET* UP AT *MUNICH* LEGENDS





Lovely E24, below, and a nice mix of different Threes, as you'd expect



Three generations of M5 sharing car park space alongside Z8s and 02s



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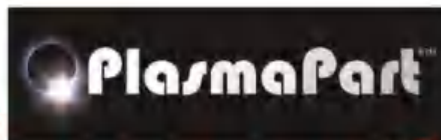
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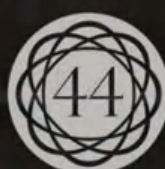
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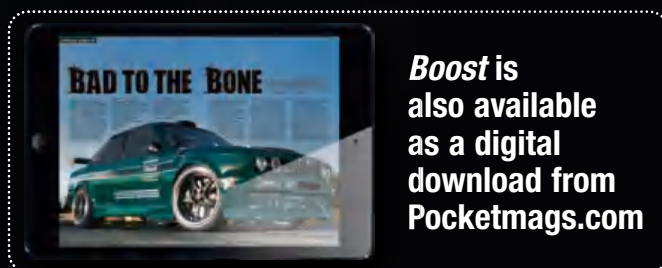
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Tech Guide Propshafts

Words: Elizabeth de Latour
Photos: BMW



What is a propshaft?

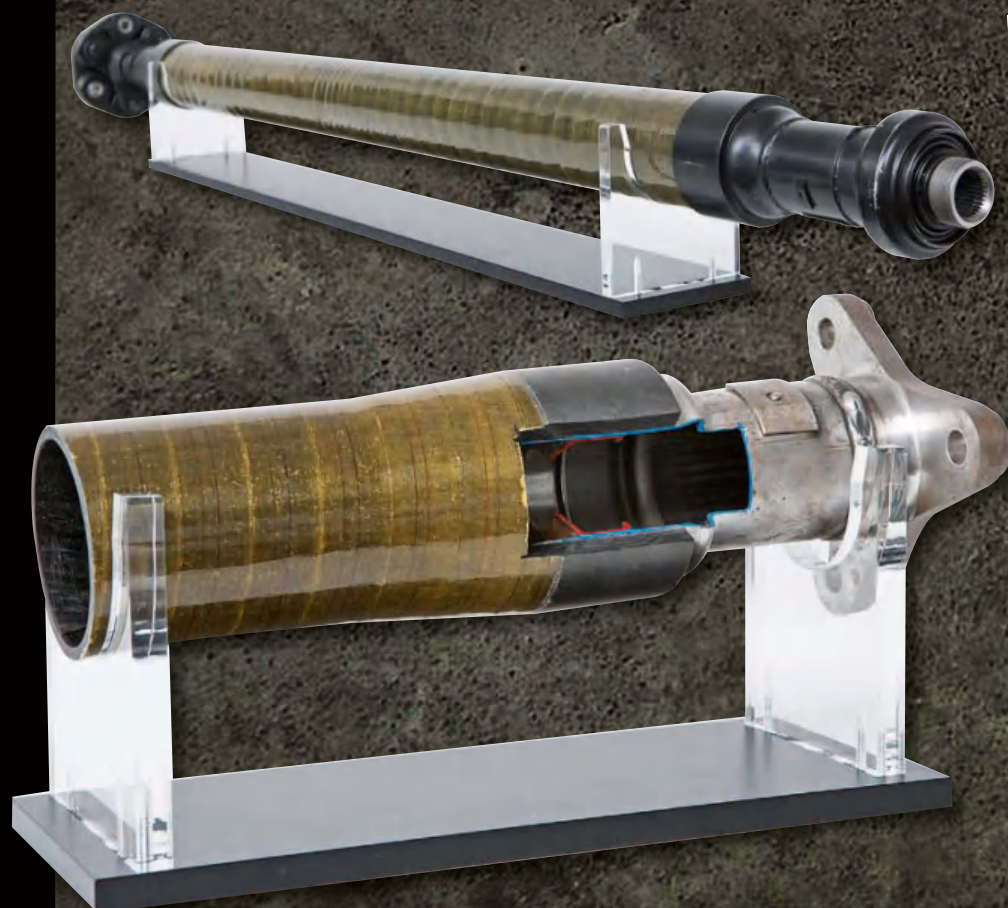
A propshaft is a shaft that transfers power from your engine, via the gearbox, to the driven wheels, so generally speaking in the case of BMWs that means the rear wheels. The propshaft connects to the rear diff while a pair of driveshafts or halfshafts (one for

each wheel) transfer the power to the wheels themselves. A propshaft can be a single-piece item or, more commonly, a multi-piece shaft connected by one or more joints that allow the shaft to be angled beneath the car. These universal joints allow the shaft to be split and

angled whilst still rotating. At each end of the shaft a CV joint (constant velocity) allows the propshaft to transmit power through an angle at a constant rotational speed. In cars with serious power upgrades people often fit larger CV joints to cope with the increased torque.

Materials

Most propshafts are made of steel as it is tough and relatively cheap. However, it is also heavy and that's not what you want on a performance car. A lighter propshaft will reduce rotational mass and improve throttle response and acceleration and there are two main options: an aluminium propshaft will offer a decent reduction in weight over a steel item whilst also being affordable; or, if you really want to push the boat out, you could go for a carbon fibre propshaft – as fitted to the new F8x M3 and M4. Naturally, this is a much more expensive option but it is also significantly lighter, physically smaller in terms of diameter, and much stronger. Carbon fibre has numerous advantages over aluminium and allowed BMW to construct a single-piece propshaft with no centre bearing compared with the two-piece item on the E9x M3. The carbon shaft weighs 40% less and delivers a significant reduction in rotating mass, improving drivetrain dynamics and response as the engine expends less energy rotating the heavy propshaft, allowing more energy to be transferred to the rear wheels, and that is obviously a very good thing ●



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THORNEY MOTORSPORT'S F82 M4

Okay, so we've done some minor handling upgrades, we've done some minor visual upgrades but when it comes to tuning cars for a lot of people there is only one word worth thinking about: power. Now everyone wants to know what sort of power increases we can get with the M4 but before I get to that I think its worth explaining what it is we do to generate more power from these cars and also the ways in which it can be done.

A car's power comes from the ECU, the computer that controls everything from ignition timing, boost, fuelling, airflow etc and as with all computers they run on a program that dictates these parameters. So when we remap a car what we are doing is reprogramming some of these areas to generate different outcomes. The art is knowing what to do and also what not to do – that comes from experience and also from testing, testing and more testing.

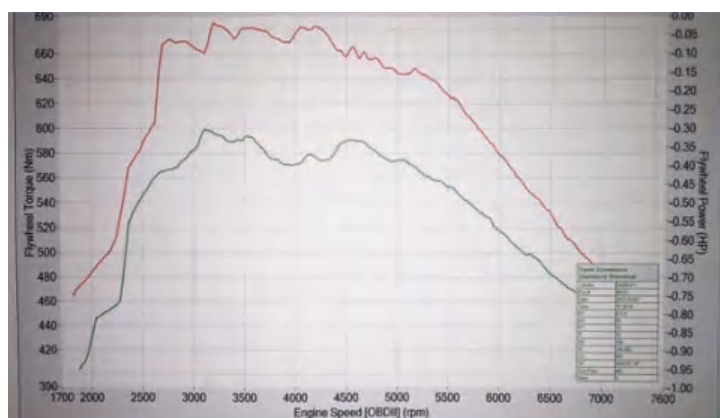
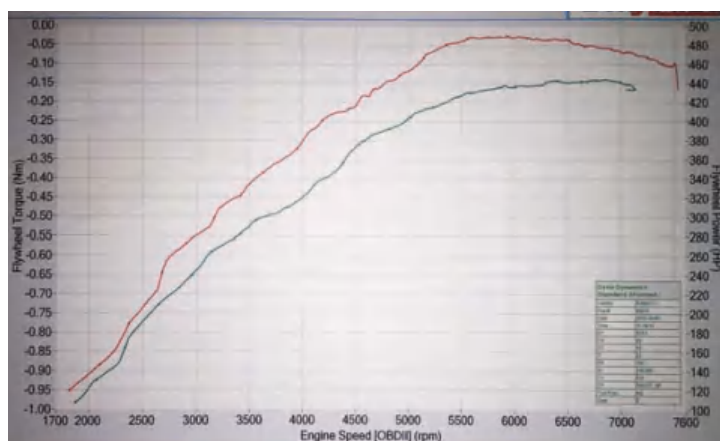
Its for this reason that Thorney Motorsport is rarely the first to release power upgrades on new models. For a start we won't develop something on a car that we don't actually own; we prefer to take our time and work on our own cars to develop and test the product so when we do release it it's better than anyone else's and it's a process that works very well.

When the M4 was first released within weeks there was a plethora of 'tuning boxes' released all adding power to the car. Now the reason for this is that initially the tuning industry (worldwide) wasn't able to crack the encryption

so the simplest solution was to ignore it and add a separate ECU in line to the system to adjust the ECU output rather than change it. Now generally we are not fans of tuning boxes, for the most part all they do is take the signal from the car's ECU and change it (boost, usually) to give you more power but the car itself knows nothing so if there is an issue, it will carry on assuming that it's running stock boost which isn't great. In the short term some of these can work well but we tend to use them only as a last resort; our preferred aim is always to remap the ECU itself.

Now remapping (reprogramming) the ECU is relatively straightforward. To get down to the nitty gritty of it, it's an excel spreadsheet where you can change numbers to change characteristics of the car's power delivery. A lot of 'mappers' will expound the idea that it's magic, that they possess some kind of demonic power to program where others do not but the fact of the matter is that the process is quite straightforward. The devil is in knowing what to do and what not to do, and that only comes from experience. It's like any software; do you want the Beta version or one that has been tried and tested on multiple platforms so you know it does what it says it will do? That's why we have only just released our own M4 maps; our extensive testing procedures take time!

So, enough of the boring stuff, what can we do? Well, it's a turbocharged car so the answer



is, a lot. An awful lot. A Stage 1 ECU remap (stock car, no other mechanical changes) will gain you over 60hp over standard, bringing the M4 power up to 490hp with a torque increase of nearly 100lb ft from 3000-5000rpm. In short, the car is now a rocket! We've had some power runs over 520hp on the standard exhaust but have limited it to under 500hp to keep things cooler. A lot of the development has been creating a map that allows this power to be delivered. A sudden injection of power is going to make the car undrivable so we've spent a lot of time making sure the power delivery is smooth and controllable as well as limiting the torque in lower rpms to protect the DSG gearbox, so it now feels faster all of the time but no less violent (it's actually smoother in that regard). We've also spent a lot of time keeping the heat under control. The chargecooler works hard enough as it is, so running more power means we need to be especially careful in keeping heat under control, which we do with clever use of fuelling and ignition timing so the car runs no hotter on the road than standard. To ensure this we have kept the power relatively low. We can gain more with changes to cooling and the exhaust... but that comes later!

The net result is a genuine 500hp monster that will even beat our 600hp X5M down the drag strip which, considering the X5M is AWD not rear-wheel drive, is impressive. The more we do to this car the better it gets.



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THANKS AND CONTACT

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BEN'S E36 323i TOURING

The other month was an absolutely hectic one to get ready for the Gaydon BMW Festival. I haven't done many shows at all this year and so I wanted to make an effort to tidy up the Touring for it, as this year's various thrashes around Wales had taken their toll.

Not only was my M3 splitter missing but my bonnet cable had snapped, meaning that a crude and ugly roadside fix (having the cable hanging out in front of the radiator) was still there, and the power steering pulley had taken a hit and had a chunk missing, which was pretty unsightly. I'd also picked up a set of rare saloon-fitment AC Schnitzer Cup mirrors, which I was keen to get on.

I set aside a few days, assembled the parts I needed and got to work. As it's becoming more and more of a track car, I decided there was little point in carrying out the fiddly task of replacing the bonnet cable. So that was cut out and I fitted a set of quick-release bonnet pins instead. Drilling through my bonnet was a little bit daunting but after some careful measuring the job was done.

There is now no need to go into my cockpit area to open my bonnet, which makes things easier for me, as I'm quite often tweaking something. The only down side to this type of bonnet pin is that they're not legal for use at the Nürburgring, but I'm not planning on going over there for a while yet. I'll probably also have a fibreglass bonnet by that time, which will be a good excuse to fit some AeroCatches, which are 'Ring legal and do look that bit nicer.

Reattaching my splitter was an easy task and I complemented it with some foglight blanks, ordered from my local dealer. The mirrors were the icing on the cake. I've wanted a set of these for as long as I can remember, so when a slightly shabby black set came up on eBay, which I won for the starting price of just £100, I was pretty

thrilled. One of the threaded inserts on each mirror was missing, and there was evidence of a dodgy attempt at a fibreglass repair on the backs, too, but nothing that put me off.

Once the mirrors arrived, I popped the glass out and took them straight to my painter, Paul from Automotive. He set about sorting them and giving them a beautiful coating of the all-important Hell red, of which he keeps a stock of ready-mixed for me at all times. Once I had them back from him, I finished off the repair with a new threaded insert for each mirror, and popped the glass back in. The finishing touch was a pair of domed Hack Engineering stickers to replace the original ACS ones.

The final bit of work was to get the power steering pulley replaced. The vibration caused by the missing chunk of pulley actually seems to have done the pump's bearings some damage as that's become noisy of late, but more on that in a later issue. Needing to replace a damaged part is always a great excuse to upgrade and underdrive pulleys are something I've been wanting to fit for some time. After a customer cancelled an order for a set of VAC Motorsport pulleys from me, I knew that it was meant to be, and they made their way onto the S54. The T6061 billet aluminium pieces not only look fantastic but give a claimed 8whp and 7lb ft of torque on an otherwise standard engine, achieved by underdriving the water pump and power steering pump. The upshot of this is that it also brings a welcome touch of added weight to the steering. It reduces the power assistance just enough to really improve the amount of feedback through the steering. I plan to add VAC's alternator pulley to the setup at some point, said to be good for another 3whp and 2lb ft of torque.

There were now just a few items left to sort before Gaydon; more on this next month.

OUR CARS

ELIZABETH'S E39 540i

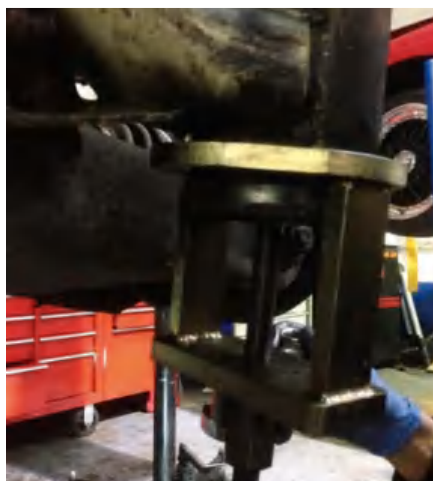
I've never actually had a car with polybushes before, probably because every car I've owned has felt fine, really, and I've not seen the need to fit any uprated ones. I've always just changed springs or dampers, or both, and been impressed with the dramatic improvement in handling that follows, so it never felt as if going with polybushes would make a significant difference to my driving experience. With the E39, however, things were a little different...

Cast your mind back to February of last year when I bought the car. You will recall how it had been standing for a good few months before I came to rescue it from its life of neglect. It was not in a good way and I get the feeling that, despite a folder full of receipts, towards the end of its time with the previous owner it may not have been getting the love and attention it deserved. He'd attempted a DIY arch repair and sprayed it himself with an aerosol can in the wrong colour for Pete's sake...! Sorting the suspension and brakes made it feel a bit more like an E39 should but it was a long way off feeling right. Some of the bushes were most definitely not in a good way and as a result the 540 felt very loose and not very nice to drive. After I'd had the StopTech brakes fitted and the technician who'd done the fitting came back from his test drive to make sure all was okay, he commented that while the brakes were fine the rest of the car was most definitely not. The best way to describe it would be to say that it simply felt like certain suspension components weren't connected to others or were hanging on by a

thread, and it just felt rough to drive and certainly no fun. Considering the E39 is generally considered to have one of the best chassis that BMW has ever produced in terms of its ride/handling balance, it was clear that something needed to be done as at that point it was akin to watching Avatar on your phone instead of an IMAX screen.

Enter Powerflex. In a world where so many aftermarket parts seem to come from across the water it's great to have one of the world's leading polyurethane bush companies based right here in the UK. In fact, it's fair to say that if someone were to say polybush, you'd think Powerflex. The company was formed 19 years ago and it really knows polyurethane, manufacturing everything in-house in its self-contained state-of-the-art factory. Powerflex makes bushes for a vast range of cars in both its road-orientated (commonly purple) range and track-biased (black) range. The benefits of polybushes are their increased stiffness (25-30%) which reduces unwanted flex in the suspension, making the car feel sharper but with the same noise-absorbing properties as your cheaper, softer rubber factory bushes. And while they are five to eight times more expensive than rubber bushes, they last a lot longer. How much longer? Well, Powerflex offers a lifetime warranty on all of its bushes, so that should tell you all you need to know really.

So, the E39 needed bushes and as I'm a firm believer in doing things right, I decided to raid the Powerflex catalogue and got hold of every





THANKS AND CONTACT

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single bush the company makes for the V8 E39. Every single one. That might seem like overkill but with almost two tons to deal with and over 120k miles covered, the suspension needed all the help it could get. Plus, asking it to do things it was never designed to do thanks to my air suspension meant it had not had an easy life. Usefully, my local BMW specialist, BM Sport, which has been looking after all my BMWs for as long as I can remember, also happens to be a Powerflex dealer which meant I ordered my bushes through it and handed the E39 over to Jags and the team to let them crack on with the unenviable task of changing all the bushes.

Needless to say, it was not a pleasant task. 17 years and 120k miles of exposure to the elements had definitely taken its toll on the suspension components and getting to all the bushes and removing them all difficult to say the least. Pretty much most of the entire suspension had to be disassembled to allow access but, luckily, the Powerflex bushes are simple to fit, which made the job a little easier. I had no interest in opting for the harder, track-biased Black series bushes as the E39 only gets driven on road, but it's interesting to see that not all the bushes are the usual road-orientated purple, and that's because Powerflex's extensive testing has shown that for some areas of the suspension the slightly softer yellow bushes or harder black ones perform better and are the ones you will be sent for that particular area.

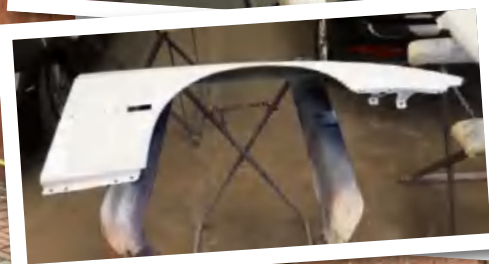
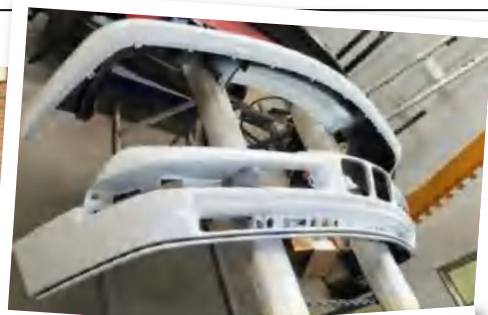
Now, foolishly perhaps, part way through the

fitting I decided that was a good time to see what people's opinion of Powerflex bushes on E39s were and found a couple of forum threads where owners were complaining about noise and harshness. Concerned if I'd made the right decision I texted Jags to ask his opinion and he promptly told me to stop worrying and to wait to make my own mind up once they'd finished. With the sea of bushes fitted the guys put the E39 on a ramp to carry out a full alignment before handing the car back over to me.

My verdict? Incredible. The car has been transformed. Whereas before it felt loose and sloppy it now feels tight and firm, like all the suspension components are actually finally connected to each other. The difference is like night and day. It feels so much more taut and together but also smoother. As for harshness and noise, there's none of either. I noticed absolutely no increased stiffness in the ride and no increase in noise or vibration. There are literally no negatives from getting the car polybushed.

Obviously it's a huge undertaking to get everything done at once like this but I would absolutely recommend Powerflex bushes if you're looking to replace your worn bushes. I would also suggest you seriously consider doing a full Powerflex bush swap (in stages, perhaps) as the difference is so huge, and especially if your E39, or any other BMW, has now covered a good few miles and is starting to feel a bit loose and sloppy on the handling front. You will not regret it.

OUR CARS



STEVEN'S E31 850Ci

After several weeks of waiting I was called by the bodyshop to tell me that my body panels were finally finished. I raced down there to inspect the work, and it's safe to say that I was pleasantly surprised. There's nothing quite like freshly painted metal, and the panels looked fantastic. So I packed them carefully into the Touring family wagon and brought them home to fit.

Removing the old panels was fairly problem-free; it's only nuts and bolts after all. I did, incidentally, find a very rusty cigarette lighter inside my old bumper while I was removing it –

it didn't work though! Refitting of all the new panels was again pretty straightforward, with the exception of the passenger wing mirror. As Sport mirrors are so hard to find, I had to buy some damaged-repaired ones. Unfortunately, the repair was less than perfect, so while externally they looked fine, the mounting points were woefully inadequate. I had to redo all of the internal body filler, drill new holes and 'Helicoil' them.

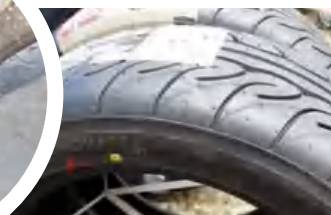
Another slight sticking point was the numberplate plinth. Since I was fitting a CSI splitter, the standard numberplate holder wouldn't fit. However, as the CSI one was £250

(yes, I said £250) and no longer available from BMW, I was left with little option but to make the standard one fit. Fortunately, the side mounting points lined up okay, so after shaving off the rear mounting points, it bolted up fine. Job done.

While I had everything in pieces, I cleaned up the kidney grills with good old Brasso, and I also fitted some black and white carbon fibre BMW roundels. Controversial, I know, but I like them.

I'm really pleased with the results and I'll let the pictures do the talking. It's given the whole car a more sporty appearance; I'm delighted with the transformation.





ROB'S E30 318i

Last time I left on a cliffhanger about the struggles with my coilovers. Well, the good news is that I got it all done in time for the 250-mile round trip up to Shelsley Walsh. Now you would have thought with the amount of times I've had the front struts off the E30 while I've owned it, getting them off again to fit my new Gaz coilovers would be a walk in the park. Wrong!

The first of my stumbling blocks were the ball joints for both the wishbone and track rod ends on each side. They just didn't want to come free. After two hours of struggling, a lot of swearing, and the help of a large hammer, I finally freed all four ball joints, and the struts therefore came free from the car with no further complications. That was not the end of my problems, though...

Swapping my hubs over was a nuisance mainly due to the fact I do not own the correct tools to remove them or press them onto the new struts. Fortunately a local mate with a well-stocked workshop was on hand to give me hand with removing the hubs from the old struts. A flat chunk of wood and the aforementioned large hammer was sufficient to locate the hubs onto the new coilovers.

Huzzah, I thought, now it's just a case of fitting them back onto the car and I'm done. With a helping hand from my dad and after a small hiccup with our compressor the new shiny Gaz coilovers were installed and looking smart. But then came my largest stumbling block: my banded steels didn't fit! And time was of the essence, as there was only one week before I was due to go to Shelsley Walsh. First I tried various spacers I had lying around. I even went up to 8mm and still they were catching on the threaded body of the new struts.

You may remember a few months back I had bought some original E30 BBS cross-spokes but I was still yet to get any tyres for them; cue some frantic next-day delivery tyre ordering. I was saving these wheels for some pure track tyres but this unfortunate turn of events meant I would had to purchase some decent all-

rounders. A call to Demon Tweeks and a set of Yokohama Advan Neova AD08Rs were ordered. I can't recommend these tyres enough. They offer brilliant grip in both the dry and the wet, and I think the tread pattern looks good, too. Once they arrived I got them fitted. The new wheels then went onto the car without a hitch.

Moving onto the rears, the new Gaz units are the same layout as the standard setup but with adjustable spring platforms and I put some fresh top mounts in whilst I was at it. After removing three bolts on either side the shocks came out and, with a bit of a wiggling, so too did the springs. The whole rear end took me just an hour in total – far quicker than the front.

One other small alteration I made to the car was to the way the fibreglass bonnet is mounted. After my trip to Silverstone I found the bonnet was flapping around far more than was

ideal. I have spaced it up at the rear using some old vacuum hose to help air get out quicker and added an extra bonnet pin in the middle at the front. So far these alterations seemed to have worked and the bonnet hardly moves at all.

The Retro Rides Gathering was fantastic. I was lucky enough to get the opportunity to drive up the hill for the second year in a row, which made for an excellent comparison with the almost full weight of last year. With the stripped out lightweight panels this year, I was pleasantly surprised. There were some other crazy BMWs there going up the hill (as you can see in the pictures); the E21 with a V8 heart was a favourite of mine.

I still have a way to go with the old E30. Brakes are the next thing on my list but for now I'm just glad to be able to drive the old girl.



OUR CARS

SAM'S E46 M3

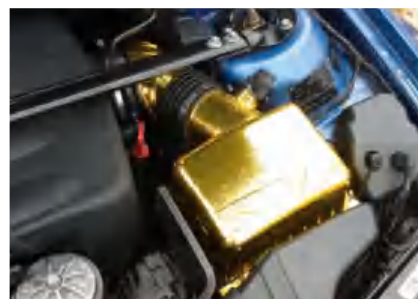
The goal this month has been to simply keep my engine cool and clean. As you can probably see from the pictures there's a lot of in-your-face-gold, so I'll start with that.

The gold wrap/tape is designed to deflect heat (as seen lining the engine bay of a McLaren F1). Knowing the S54 suffers from high intake air temperatures I thought I'd give this tape a go. At first I covered the lid of the factory airbox. Then, only weeks later, I upgraded to an Eventuri intake (see *Product Focus* 09/15). Although the Eventuri intake is made of 2mm-thick pre-preg carbon which itself acts as a very good heat deterrent I already had the gold bug and wanted to continue. So another few rolls of tape were bought and the whole intake plenum removed. I planned on covering every inch of the box as there was no point in doing a half-hearted job. It turns out applying this tape to the unusual shapes of the airbox is not all that easy, so I took my time and did it as neatly as possible.

After removing my secondary air pump I've had an empty space in the engine bay, so I decided to fill it with an oil catch can. This was something I'd wanted to install for a long time. There were a few off-the-shelf kits over in the States for LHD cars that just seem to be wildly overpriced so I got a few eBay special parts and with a home-made bracket I created my own simple setup. As I didn't go for any lairy coloured silicone hosing this time the installation almost looks factory.

Something else I'd been meaning to do for a while was to bin off the viscous fan and install a electric puller fan. For track driving the electric fan is a much more efficient way of cooling the engine and it frees up a bit of drag from the aux belt. Mishimoto has conducted testing by removing the viscous fan and found it gives up to 5hp at the wheels. The puller fan was installed using the control unit from the now unused air-con fan. I had already bought a little rocker switch to be able to wire up the fan to work with the engine off but it turned out that the fan runs from the get-go of the engine being switched on and the switch wouldn't have been able to take the fan's load. Once complete I tested the system by leaving the car running on the drive on a hot day for a good half an hour. I'm pleased to report that the temperature needle did not go over the halfway point. I followed this with a full day of driving around the Goodwood circuit without a hint of overheating.

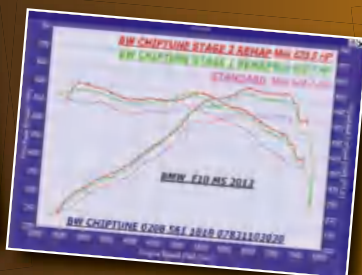
Lastly I had a bit of carbon sheet left over from my audio delete panel so decided to use it to add a scoop onto the bottom of the centre intake grill just because it looks so cool!



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LORENZO GALEA E36 328i SPORT

Lorenzo hails from Preston, as you'd expect from a man named Lorenzo, and he purchased this E36, affectionately known as Ella, from a friend in 2013, who'd already lowered the car on coilovers, fitted some Alpina reps and carried out some OEM+ mods. All good until the head gasket blew last year and one of liners cracked. However this inspired Lorenzo to build himself a better engine in the shape of an M50B30 stroker using an M50 block (which he painted blue), a reconditioned and skimmed M52 head and M54B30 internals, plus an S50 sump. Lorenzo says that while the fuel economy is now awful, the power delivery and sound make it all worthwhile. Plus there's the satisfaction of enjoying an engine he built himself. The car also features carbon badges, rolled and pulled arches, a Scorpion exhaust, polybushes, M3 front brakes and LSD, coilovers and staggered 18" Dare wheels. On the inside you'll find black Vaders, a black carpet and dashboard, plus a 12" sub. Hats off, Lorenzo, that's a mighty fine build, good work!



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DANIEL JONES E93 325i CONVERTIBLE

This once plain Jane 325i has been given a sexy makeover by Daniel, transforming it into quite the head-turner. He treated his weekend toy to a set of massive 20" AVR wheels and the car has been lowered by 20mm at the front and 30mm at the rear on fully adjustable Bilstein dampers and springs. On the styling front there's an M-style bumper, side skirts, rear bumper and diffuser, plus a quad exhaust conversion. Daniel says he's happy with how the car looks and so he's now planning some engine mods which should make it even more fun to drive!



PAUL WILLIAMS E39 530d

It's always nice to see another E39 being modified and Paul has spent some time turning his sensible diesel into something more exciting. Obviously the first thing you want to do with a diesel is remap it, which Paul has duly done courtesy of Enda at End Tuning. The map is bolstered by a stainless cat-back exhaust from Longlife. A set of Apex springs deliver an aggressive 50mm drop all-round and the car sits on a set of 18" concave multi-spoke Axe wheels. The roof has been wrapped and there's a full window tint, plus gloss black kidney grilles, LED angel eyes and a set of uprated HID bulbs. It's a work in progress, says Paul, and future plans include a rear roof spoiler, removing the T-bar from the front bumper, a set of 20mm wheel spacers and an EGR delete.

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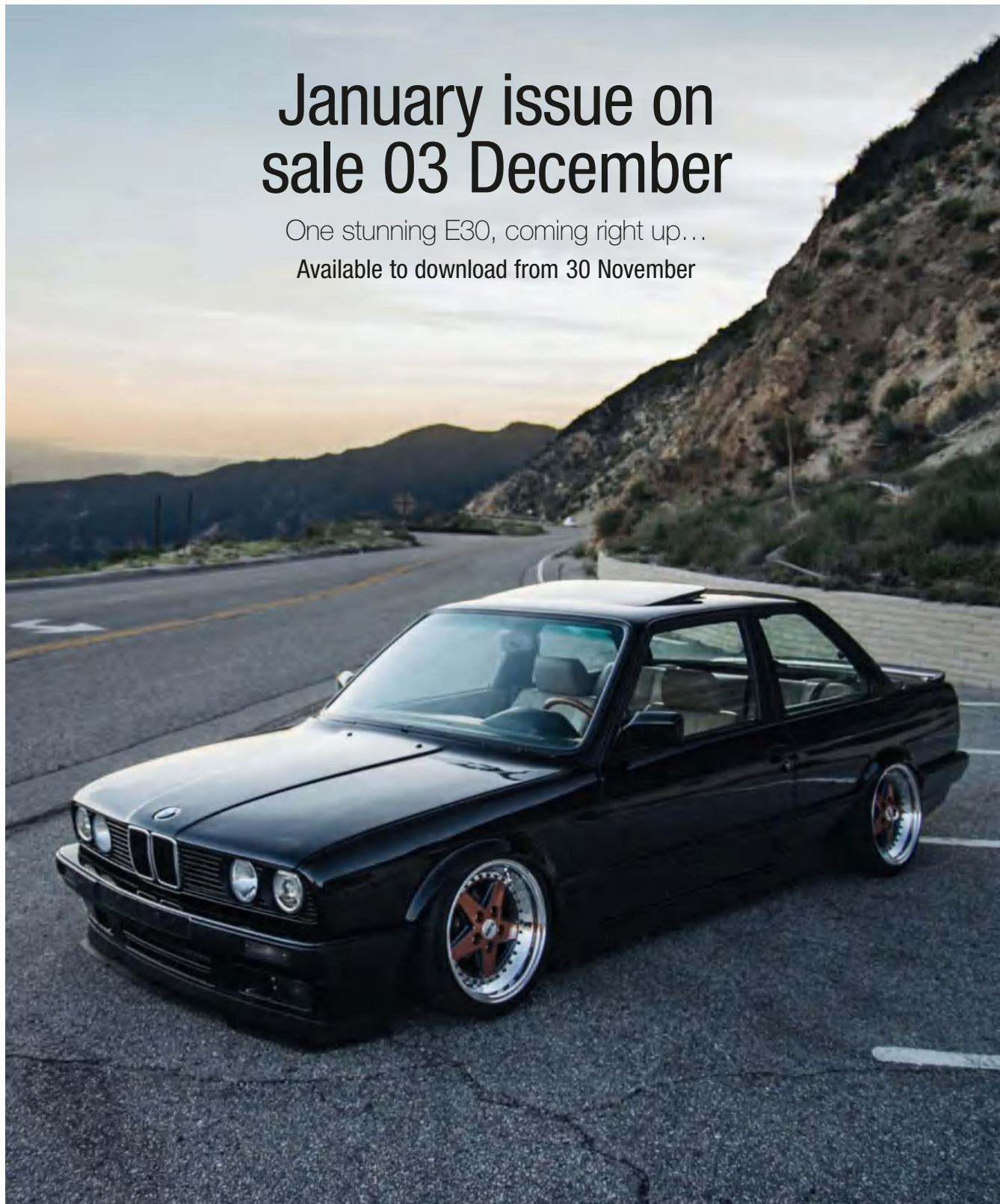
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